NATURE'S HARMONY

FRANCIS D. LACY

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BY

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TO THE PUBLIC.

This is an age when substantial facts are called for, and the field of dogmatic speculation no longer has any charm for well cultured minds.

The limits of man's intellectual range are broader to-day than ever before, yet are very narrow when compared with the illimitable fields for research that he may never be able to explore; and the higher he ascends in the scale of wisdom the more easily he discerns how unfathomable the ocean of knowledge and how incapable his mentality for ever measuring it. But the world is in a state of progression, and

While generations thus succeed from infancy to age,
Each stamps its history on each leaf in lines from page to page;
And as the wheel of progress rolls from earth's primeval state,
Through all the changes undergone down to this present date,
The fields of earth assume by far a more exalted phase,
And man aspires to moral worth and seeks more godly ways.
All animated nature shows the progress of its kind,
In physical perfection wrought, likewise in power of mind
And vegetation, too, assumes a far more high degree
Than did it in those early days, we evidently see;
For in comparison with mind our very food is made
More pure for each existing kind to render progress aid.
The fruits on which we now regale in luscious flavor show
Developments which ne'er were known five hundred years ago.
Unto the surface of the earth imbedded riches rise,
And to the increase of all life comes forth increased supplies;
And man is mightier by far than in the ancient past,
For nature in her progress saves the best until the last.

Therefore the times demand intellectual food of rich and substantial character, as well as that which

is new and agreeably seasoned, and I hav earnestly labored in preparing this volume to meet the requisitions of the times. However I fully realize and willingly acknowledge my inability of presenting to you a work as well polished and skilfully written upon this subject as the world rightfully demands.

I hav watched for many years the groveling ignorance and unrestrained promulgation of religious bondage, embodying what appear to me the grossest delusions and vilest superstitions that man in his depravity could conjecture, and in opposition to this hav beheld a power as far off of its fulcrum, leaning the other way, earnestly endeavoring to hold society on a balance, and now after having carefully weighed the pro and con by many years of diligent study I hav resolved to present to the world a *natural religion* based upon moral principles and scientific facts.

In this theory we acknowledge that an infinit intellectuality pervades the universe and controls all things, but in conceding to this must sustain that the universal intelligence acts only with consistent principles of natural law; making all of the evolutions subject to the conditions "that the means must be equivalent to the end." Such divinity, you will readily see, characterizes the highest attributes, and at the same time leaves no particle of knowledge to man that such an intelligence pervades.

You will also discern from the title that I accept the doctrin of a future existence, or, in other words, a perpetuation of consciousness, into a new sphere, to where it is literally born, carrying with it a tangible physical body, for further developments. This theory I advocate, not as a matter of faith, but as the solution of a problem upon the basis of scientific in-

vestigation, and though it may be difficult to establish this fact in the minds of others, we hope at least to impress the minds of many with the merits of it.

For many years I neither believed in a supreme intelligence or a future state, but in studying upon the subject constantly, reasoning only from natural law, at last I felt an assurance that the problem was solved, and since that time I often hav wondered why all others hav not beheld the subject in the same light.

When the new theory first flashed across my mind I felt that the world had changed from an illusion to a reality, and I not only felt an uneasiness, but a duty to present it to the public. I hav endeavored to do so in my rough way, and should it prove to my readers the consolation and sublimity of thought and feeling that I realize, then I shall hav accomplished my object.

I hav found it impossible to use in this work the technicalities acceptable to my scientific friends; and the bungling manner in which I hav presented these facts is not so much a frailty on my own part as a necessity in order to meet the wants of the people.

With no vivid expectation of controling more than a moderate patronage for the sale of this work, I await with ardent hopes that some more able author will perfect it, and in a more polished manner offer it to the public.

With many thanks to my readers, I would most respectfully subscribe

Yours for moral virtue and intellectual development, FRANCIS D. LACY.

PLANETARY DEVELOPMENT.

Since planets exist for the satisfaction of intellectuality, the inference is that without mind there would need be no such principle as matter. Both, in nature, are absolute necessities, nor will we be partial as to which is the dominant principle, since either alone is a cipher, while both, united, are a universe.

Since from nothing nothing arises, while from something something must forever exist, it is evident that nothing tangible was ever created, and in no way can ever be ultimately lost. If all matter is self-existent, then all the qualities that it carries with it must be self-existent, also, and whatever form material may assume, the results of evolution call for all the principles and forces necessary to correspond with the developments. When we consider the planets in a state of formation as having been evolved from a condition of nebular or gaseous fluid, the harmonious order in which they are governed indicates that a principle of intellectuality has pervaded and is still controling the operations of all nature.

The conditions attending one planet in its formation are equivalent to those attending all others in like stages of development. Our world is a sample planet, from which data we reason, and the elements, species, varieties, principles, tempera-

tures, climates, habits of animals, and even the enterprises of man in this world, are representativ of those in any other at a similar period of its development.

Man, the highest order of animated nature here, is doubtless the highest order in any other world where the conditions of development are adapted for the existence of man, and his intellectual excellences depend upon the natural progress of the earth in her development. Doubtless the highest intellectual abilities of man existed once nearer the poles or in a higher latitude than now; but at the present time, what intellectuality lies between the thirty-seventh and forty-eighth degrees, north and south latitudes, is worth more than five times the human intelligence of all the rest of the world. But ten thousand years hence (not doubting but the earth will stand ten times ten thousand years) the highest intelligence will exist nearer the equator, as by that time the climate at this latitude will be much colder than now.

The rigor of cold climates impedes the progress of enterprise, while the hot climates nurse man in his indolence. "Necessity, the mother of invention," spurs man to enterprise where the conditions best afford the opportunities for him to pursue.

The theory that those planets furthest from the sun are necessarily colder is not at all reasonable. All require the same temperatures in the progress of their developments. The principle caloric is existent in the planet's own body, while the light received and heat absorbed by a heavenly body is as much enhanced by magnitude as detracted by distance, hence the larger planets, and least devel-

oped ones, in the economy of nature, are furthest from the sun.

The absence of caloric is indicativ of a planet's death. The moon originating at the same period as the earth, and being about forty-nine times smaller, without doubt has developed to her maturity, and is now expiring with old age. The heated volume being less than that of the earth, it required proportionately less time to cool; and now while icebergs surround her surface, her sister, earth, presents an appearance of her most fascinating bloom The moon is now held subservient to our use, giving light by night, creating various essential effects upon the earth, and acting as a balance-wheel, equalizing the motion of the earth in her diurnal and annual revolutions.

The asteroids, now in formation, indicate a vast quantity of nebulous fluid between Mars and Jupiter, which the attractiv force of neither was sufficient to collect. These small planets increase in size by receiving through their attractiv forces the gaseous substance surrounding them. The attractiv force of each will rarefy the condition of the gaseous material surrounding, so that in each succeeding century each will receive proportionately less substance from meteoric showers and gradual accumulation. Some of the asteroids will doubtless eventually collide, owing to the close proximity of their orbits, forming a single planet of respectable dimensions, where now are several of these comparativly small bodies.

As the internal heat subsides fastest where a planet's diurnal motion is least, there is where vegetation first germinates, and there, from the exceeding cold, is where it first ceases to grow. And thus

as the internal heat subsides, the surface grows colder, until earth, like the moon, will die. And such, eventually, will be the fate of all the planets in existence, and each in succession will be swallowed in as food for the sun.

Thus the sun is supported, while in exchange he is throwing out over the regions of his dominions the refined and subtil fluid in the way of light for the formation of a new generation of planets. Thus formation, progression, maturity, and destruction by evolution is the grand order of nature.

The atmosphere grows rarefied, and the earth, with stifled breath, from lack of surface, heat, and force, grows paralyzed in death; and as a cold, reflectiv ball in death-like paleness run, and every revolution made crowds nearer to the sun; till when five million times or more she circles in her course, into the sun's deep, molten heat will plunge with awful force. Nor in suspense need we await to shun that awful day. The age of man unto the world flies rapidly away; and we shall pass a thousand spheres as transient as this one, and nature's clock shall never tire, but grandly onward run.

As has been stated, when the planets hav reached their highest degree of perfection and accomplished all the material that is in them will allow, nature will then work them over and use the material for new worlds. Hence the process that the earth is now undergoing.

The outer crust, from age to age, doth deeper downward lead, and from the surface of the earth the water doth recede; and many ports along the shore shall be of no avail, and roads upon the earth be trod where ships on water sail; and many fair

and fertil fields we worthless or accursed, and famin rage, and man and beast die hungered and of thirst; and even where the torrid band doth circle earth around, no vegetation there shall spring or animals abound.

I would further state: That for some purpose the universe exists, and to that purpose all materiality is appropriated. The problem of the origin we shall leave for the unsophisticated to cavil upon, since it is sufficient for us to deal with matter as we find it, accepting both the spiritual and the material as being but one, and that self-existent and eternal. For the present we shall endeavor to consider some of the formations, evolutions, and general developments achieved by nature, and from the result of our conclusions see what inference is shown for the existence of a pervading intellectuality.

First. Since the spirit of nature abhors idleness, action is the order of the universe. Every animated being or particle of material is forever seeking its equilibrium, while the elements throughout the universe are kept in a continual state of agitation and warfare. Every creature or insect of life, from the greatest magnitude to the infinitesimal, livs in view of but one object—self-preservation! But not a creature among the innumerable species, not man excepted, while fulfilling his selfish mission, is able to understand in the aggregate the grand work he is accomplishing for nature, and why he fills a place in the great ocean of life. This principle of self-preservation is a stimulant, creating activ life, which if denied to animation would also debar all inheritance of intellectuality, making all nature a blank.

An individual bee at work in the hive seeks only

its natural requirements, but guided by a principle of intelligence, unknown to itself, it works in unison with others in the colony, and how grand is the result in the aggregate! The coral insect, though but a minute creature of life, in seeking self-preservation labors with the millions of its kind, and though its life is but momentary, note how from year to year, and century to century, they continue diligently at their colossal works. In this way the coral reefs, from a carbonate of lime deposit, hav been reared along the Florida coast, and islands of considerable extent hav been formed in defiance to the dashing waters of the ocean, by the long-continued diligence of these short-lived little insects. Whence the intellectuality that guides these instinctiv natures to accomplish so much in the world's development?

But here it would not be out of order to state that these minute creatures occupy a more extensiv range than doubtless has generally been supposed; and perhaps all the various operations of chemical affinity might reasonably be ascribed to the labor of infinitesimal insects unknown to the eye of man. In relation to this, however, I would say that of late we hav made some extensiv and interesting microscopic observations, and that the public may hav some of the benefits of our researches we will extend an idea, truthful to the letter, however fictitious it may appear to some of our readers. In presenting this idea it would only be philosophic to state that all the material in the universe is composed of particles or atoms. But in seeking to find these ultimate particles with the most powerful lens, we fail to reach them, but we find our way, in whatever material we select, lined and blockaded with innumerable ani-

malcules, from those of the larger sizes to the most minute infinitesimals, then blending into what appears a continued mass of infinitly small animated creatures or insects. These observations were taken under the most favorable circumstances, and my companion asserted that in all reason all the ultimate atoms were virtually animated identities. It is certain, as far as our demonstrations could go, we found nothing else, and the inference was strong in favor of his conclusion. But it is difficult to get the faintest idea of the ultimatum from all we can get in a microscopic view. The comparison would be like unto pumpkins, potatoes, and mustard-seed, mixed in one grand batch. The pumpkins we can see, the potatoes guess at, and the mustard-seed we shall never know anything about. The latter proportionately would be like magnifying a particle of sunlight, and that is too delicate for me, hence I will stop as others hav done, where nature proclaims, "So far shalt thou go and no farther."

'Tis ours to fancy but not understand
A world of beings on a grain of sand,
And doubtless some there seeking to explore
A mammoth cave or some far distant shore.
'Tis ours to view ten thousand orbs afar,
And state the distance to the dimmest star;
Survey the planets, weigh them, and control,
But not to analyze the human soul.

The foregoing we hav presented in order that the mind of the reader may fully realize the infinit minuteness of the particles of all material substance, and also that the largest things in the universe are productions of actual growth, the composition of which is a multiplication of infinitesimal atoms, the existence of which is known, yet beyond the power

of man to find. Again, in showing the worlds beneath us, and the worlds above us, it is our object to impress this principle upon the mind: that magnitude can only be considered in comparison to the mind that considers it. The sphere in which man acts makes things around him appear of certain dimensions, and distance also proportionately corresponds with his nature. But what do the thousands of animalcules, living and sporting in their boundless ocean, the aqueous fluid of a person's eye, know of the infinitude of space outside? Or, in the way of illustration, what if the earth were an intellectual being (which in my judgment it is) and we but parasites, digging and biting and frolicking upon her back, with what insignificance would we be regarded by such an immense being, and what more would she know of us than we of the little creatures beneath the ability of our eyes to discern? And again, time or duration is a principle in its nature never varying, yet adapted to the appreciation of any existence of thought, proportionate to the sphere and requisitions such existence or being demands. To the minute insect, whose lifetime is but for an instant, to the realization of its identity, it may appear an age, while the duration of our lifetime to a planetary being might be regarded as a second of time is realized by us.

In the formation and development of planets and solar systems it is a process requiring great duration, but it is hardly possible that all the planets in any solar system ever originated at once, but are born, develop, mature, and perish, one by one, analogous to the origin and growth of the species, and thus from generation to generation are perpetuated. It

is doubtless a fact that the space occupied by our solar region around and between the planets in a state of development contains a sufficient amount of gaseous fluid to compose as many more heavenly bodies as are now flying in their elliptical orbits around the sun, but in order to perpetuate the existence of this great family it is essential that new generations should gradually arise to take the place of the older planets which are continually passing away; consequently it is absolutely necessary that nature should keep in reserve a sufficient quantity of rarefied material to answer the requirements. It might be questioned where the worn-out, or rather the dead, planets go when no longer useful for nature's purpose. We would answer in all reason that they go to the great source from which the material of their composition was radiated, the sun, in accordance with the law of nature's just compensation, for obviously the labor assigned for the sun to perform is to supply the solar space with the new and refined material for the sustenance of the old planets and the formation of new, consequently planets as they are developing continue to run in their orbits, but at every circuit made arrive a little nearer to one of nature's great heavenly tombs. The progress is slow but sure, and it is only a matter of time when each in turn shall be swallowed in as food for the sun.

In the formation of new planets these little children of the solar system are subject to many misfortunes. Often it occurs that a nucleus commences in such close proximity to some partially developed planet that the attractiv force of the greater body receives the lesser at a very early stage of its existence. Specimens of this kind frequently come to

the earth in the form of meteoric showers, or in a more dense condition of stone. Perhaps there are many of these infant formations in the limits of this solar system at the present time, and yet possibly not one out of ten thousand will ever develop. In the progress of a planet's growth no doubt many burst in the heavens and resolve back into their former condition of nebular fluid, while others more nearly developed are subject to the most terrible volcanic eruptions and convulsiv commotions that the mind is able to conceive. The earth shows signs of such in every mountain range on her surface, and still she belches forth her fire and smoke from time to time from her numerous volcanoes.

Upon the principles of philosophy no planetary nucleus can form and develop except where in the economy of nature it will be needed in the heavens to assist in keeping order and harmony. It is plain to understand that in the formation of a heavenly body, it would receive all the material adjacently surrounding that its attractiv force is capable of collecting, and its attractiv force is increasing in proportion to its volume and weight. Hence any density in the heavens, aside from the planets, must be sufficiently foreign from them to justify an amount of material adequate to build up a body large enough for practical utility to nature, else the work will be counted among the buds that never blossom; for nature never works without a purpose, and this is one of the reasons why we infer that intellectuality rules the universe.

Say, whence that nature's wondrous power her first projectil
hurled,

Or where in broad eternity shall land each rolling world?
Or further to infinitude probe with thy wondering soul,
Seek intellectual origin, or trace it to its goal?

For what the sable vaults of sky, where worlds unnumbered run,
And why through space so swiftly fly, encircling their sun?
What is the object thus attained, as years like lightning speed,
And what the ultimatum growth of nature's primal seed?

Dost through this awful realm of space, and in these worlds that roll,
Pervade supreme intelligence all nature to control?
And does this same eternal power scorn atoms ne'er so fine,
Or otherwise sublimely rule with master hand divine?

Why do these worlds from atoms spring? From what controling force?
For what the purpose they exist? What destiny their course?
Why through these vast celestial fields do stars in luster shine,
And by pulsations waft their light along their glittering line?

Do worlds by billions roll beyond the reach of mortal sight,
Devoid of all intelligence, yet robed with rays of light?
Do they exist, yet unapplied for intellectual use?
Is nature's grand economy thus squandered in abuse?

Oh, no; the object of these worlds most clearly is defined;
From them arise organic life, and likewise thinking mind.
The forces operating through the elements of earth
Create the evolutions giving animation birth.

A world without the principles of intellectual force
Would be a blank, unguided mass, and useless in its course.
But in this great economy such planet could not roll,
Nor be developed into space without the inner soul.

A mind without a body at the origin would show
That substance were not needed whereby other minds might grow,
Proving matter is eternal, self-existent, ever young,
And as rich, wise, strong, and weighty as when "morning stars first sung."

Say not that man is royal, then, in intellectual sway,
Since but a speck of vital force thus groveling on his way,
And but a product of the earth engendered by the sun,
Which, like a bubble, vanishes and evermore is gone.

PROGRESS OF INTELLECTUAL DEVELOPMENT.

Everything in the universe is essential to fill its place, and by nature adapted to do so. The laws governing materiality operate from causes to effects, and the effects, conjoining, act as causes for other effects still to follow. Through these principles, all action, change, or evolution is produced, nor are any of the results occurring subject to either accident or mistake, but through absolute necessity each cause or missil sent strikes with definit precision, every point producing results in the line of its destiny. Consequently nothing had the power of creating itself, but everything was forced to exist, and is wholly passiv to the natural principles controling it. Natural laws are inherent with materiality, self-existent and eternal, but in the absence of material substance would be non-existent; for they only pervade whereby to control matter, and no laws would be required were there no matter to control.

That matter is the production of mind is evidently illusiv, for how mind could exist without matter is incomprehensible, and out of the order of both nature and reason. If any conceivable mind could possess creativ power, then absolutely it must contain all the possibilities of what it could create; therefore, as the means are adequate to the end, this also comes under the law of cause and effect, consequently there lies no miracle. Hence the axiom that something cannot be produced from nothing, nor the tangible ever be rendered extinct.

The idea of mind existing without matter dispenses with the necessity of matter ever existing. Even though an infinit intellectuality, with all the imaginary supreme attributes, could exist from all eternity, and pervade throughout illimitable space devoid of all materiality, we must naturally question what did it exist for, and why the necessity of manufacturing worlds? Could not a finite mind get along as well without a body as an infinit one? Then sing:

Mind and matter dwell together; without either can be neither; both possess their power in one. Ever changing, never failing; ever using, never losing; neither can exist alone. From eternity behind us to eternity ahead, throughout wondrous evolutions, mind and matter onward tread. From the world sublimely rolling through immensity of space, down to atoms 'neath our vision, grandly onward is the race. From beyond the orbs that twinkle to minute worlds 'neath our sight, on the business runs in order, mind and matter still unite. Without one wherefore the other? What is substance without thought? Worlds unnumbered, known to nothing, are equivalent to nought. Wherefore thought o'er

nought to labor? What accomplishments are made? What a barren, idle heaven, without elements for aid.

Changing the form does not affect the quantity, nor destroy any of the principles that matter possesses. Could the universe hav been weighed a billion of years ago, and again at the present time, the difference would not "stir the scale or rock the beam," nor since that time would any of the principles hav been lost.

Everything is in a state of growth, yet nature in the aggregate never progresses or retrogrades; yet development borders closely on destruction, and the building up of one thing is equivalent to the tearing down of another; therefore, dissolution is but reorganization. The course of nature is origin, development, and decay; hence birth is but a token that death is to follow; yet the dead, to nature, are worth just as much as the living. Then sing:

Crowd on, thou restless forces of infinity sublime, and bear, from all eternity to never-ending time, the self-existent principles that never can astray, in all this endless ocean while evolving on their way. To that which through development surrenders up and dies, shall be applied new forces, and the same again shall rise; nor smallest of identities be unto nature lost, for could the least be stricken out, so likewise might the most.

But in the sense of organization, that which had its origin must hav its end, else all the evolutions of nature would at once be at a standstill. For illustration: if the cosmogony of worlds ever took place, which is scarcely a question, then their destruction is certain, for the principles that evolve are identically the same that destroy.

To contemplate the fact that all the densities within our observation, and all existing in the innumerable worlds of the universe, were once in an ethereal condition, perhaps a thousand times more rarefied than our common air, and that the rapid action by which come forth the vegetable productions, and the wonderful phenomena of forcing into being the myriads of living identities, were all occasioned by the operations of certain natural forces existing inherent in the material itself, it creates a wide stretch of the imagination, but develops a truth as patent as the fact that we liv and realize our existence.

Could the mind but possess a sufficiently extensiv knowledge of the chemical affinities, electric forces, and philosophical working of atoms, it would not be difficult to trace their course from the condition they occupy in ethereal space to the densified and organized bodies they form.

Why the atoms in rarefied condition tend to develop into vegetable productions and animal life just as they do after forming into planets, suns, and comets is a question presupposing a guide antecedent to such developments. How results can come without their causes would overthrow our course of logic; and any substance or forces, proceeding from whatsoever source they may, presupposes a fountain adequate to such results. How inorganic material in ethereal form can build cities, construct railroads and steamboats for transportation of some of the same material that actually proceeded from the celestial regions before being organized into worlds, brings a solid fact to question; nor does it matter through what course of de-

velopment the material has come to produce man, yet still man's works are but a secondary condition of nature, and his grandest intellectual developments are but the results of molecules at work, guided by a certain intellectual force onward to this end.

The origin of the species, to our understanding, seems to be the commencement of intellectual development; but is it possible for nature to produce what she does not possess? If not, then she held in possession, billions of years ago, all the possibilities of what she possesses to-day. If this be so, then the thinking principle existing in all animated creatures, at the present time, must hav eternally formed some portion of the guiding principle controling the universe, and, in accordance with our reasoning, necessarily forms some portion of that controling principle yet.

Now as a sign which may answer for an inference, we here would ask if in the construction of a clock we discover any principle of design? Most certainly, for it is easy to appreciate the labor of our own kind. But compare the rough mechanism of the clock to the systematic, wonderful, and harmonious formation of the solar system, and then with the universe, and see which indicates the grandest design. But you say that these celestial bodies, with their harmonious action, are the work of nature. That is very true; so also is the clock; but the one came through the agency of man, and the other came through an agency still higher than man. That which is above the human understanding may appear as illusiv as that which we know to be erroneous. It is difficult for man to comprehend a higher intellectuality than himself, but he overlooks

the thousands of proofs constantly surrounding him. Not that I would lead the mind to the miraculous attributes of heathen deities, but that if man has thinking power, then why hav not greater things than man thinking power also? Does not the earth require, as an organized being, as much thought to traverse her course with lightning speed, in the path of her orbit, as man to pursue the habits of his sphere? You say, no; for man labors for self-preservation, and the earth is controled by natural principles. That is true, but it is also true that the earth and all heavenly bodies are laboring for self-preservation, as well as man, while man is governed also by natural principles as much as they.

Now here is a fact worthy of consideration. There is a reason why intellectual beings exist, and as has already been shown, this principle of mentality is the most precious portion of nature. Now if this be the most important part, as is plainly seen, that without an appreciation of what exists the universe would be but a blank; then why not this principle be diffused as extensivly throughout the universe as it is in the power of nature to develop? If a small portion of this quality is essential, a larger portion is still more desirable. Therefore, if it is possible for a world to possess, as an organized being or body, living and thinking qualities, then such would be necessary prerequisits in nature's economy. When I first presented this theory by lecture and through newspaper communications, I received the scoff of ridicule from some, and the eye of pity from others, but those who scorn my theory or pity my mania fail to present any tangible opposition. The conditions whereby inorganic ma-

terial is evolved into organized bodies, possessing life and intellectuality, certainly do not deny that a planet may possess a realization of life, and a sense of its identity, but on the contrary, substantially, declare that it must possess and sustain these qualities within itself, and without these qualities it could never act as the fountain from which intellectual beings spring forth. For illustration, let us consider the physiological conditions necessary to sustain life in the body and produce thought. We will consider the human system, as it is the most interesting to contemplate, and the highest order of animation known to us. In the first place, in the nature of every living or thinking creature or being, exist three definit qualities, namely, the living, moving, and thinking principles. These constitute three definit and separate systems, yet it is necessary that they all harmoniously conjoin that any may be potently manifested. The action of these parts is but the result of material organization and physiological condition. Material elements are necessarily the tangible constituents whereby all bodily action is produced, and in order to sustain in operation the physical functions new material must be regularly supplied. Withhold it and the system famishes, and a sense of realization in the body is no more. The living principle relates to all the involuntary action manifested in the body, which may be represented as operating upon the food from the time it is received into the mouth until it is assimilated to the removal of the worn-out tissues, unfit for further service, and cast away. The desire that is felt to enjoy the taste creates a natural inclination for mastication, and nature has provided a means to accomplish it. Next,

how peculiar is the muscular action of the esophagus to convey the same to the stomach, never forgetting which end to commence swallowing at. The stomach, concomitant with the esophagus, is ready to receive the new supply of food, and is made to feel its requirements from a peculiar pain created in the numerous nerves thereof from the absence of food, which are sensitiv to the conditions, being tributaries to the eighth pair of sympathetic nerves.

Next, nature made no mistake in the office to which she applied the stomach. While its action upon the food is truly wonderful, in one sense it is almost laughable. Let us consider for a moment the principles of digestion, how a fluid is secreted, of such materials as pepsin, salivary matter, mucus, lactic acid, and salin matters so associated together as to produce a solution of the most powerfully dissolving nature upon the food at the temperature of its action of any combination of materials known.

Let the best practical chemist in existence associate the elements most natural for food, and then at a temperature of only ninety-eight and one-dalf degrees bring to bear the most powerful dissolvent materials, with the most artful device he is master of, for fermentation and digestion, and my word for it, the stomach will do more for it in two hours than the chemist can in ten, while at the same time nature is running both machines. But while the stomach prepares the food, adapted to pass on to receive the next process, the chemist has left his substances poisonous to the system, and well calculated to inflame the tissues and clog the circulation.

It is interesting to notice the construction, or rather formation, of the mucous membrane or villous

coat, and its secretion, and the rapid action thereof. Suffice to say that nothing in any other form, or any different quality of secretion, could do the business so well, or, in other words, could do it at all. Next consider the muscular fibers, which unite to form the tissue of the mucous membrane, the powerful and rapid action of this membrane, and its adaptation to either the large or small quantity of food that may be in the stomach. Consider, also, how the pylorus guards the food from passing out of the stomach until it is in a proper condition of chyme, to be chemicalized into chyle by the excretions of the liver and pancreas, while passing through the duodenum, before reaching the lacteals in the intestins. Were it possible to discern and understand the chemical action of the bile and pancreatic juice, and the lightning quickness of their dissolvent effects upon the chyme while in the duodenum, before any portion of it is in proper condition to be received through the lacteals into the thoracic duct, it would beggar all attempt at description, and leave the mind in awe at the wonderful workings of the elements in our own physical systems.

Then, again, let us consider how this material is pumped up by the muscular action of the heart, to unite with the venous blood to be forced through the pulmonary arteries to the lungs, there to undergo another chemical change of lightning quickness, before being arterialized to return to the heart. Back to the heart through the pulmonary veins it is drawn, whereby to be forced through the left portion of the heart with such powerful pressure into the arteries as to send the blood to the uttermost extremities of the body, where these millions of channels, separated,

ramify with such delicate minuteness that it would be impossible for the cuticle to be pierced with the finest cambric needle without puncturing one or more of them. Through these millions of delicate hoses they hav deposited on their way their new loads of material to each and every portion, whereby to renew every particle of tissue throughout the whole spiritual tenement.

Then we find that where the arteries terminate, the capillaries, which are tributaries to the veins, arise. The worn-out material is judiciously collected up, and by rigid economy is conducted to the glands to be cleansed, or separated, the waste portion to be conveyed from the system, and the remainder, acceptable for further use, to be conveyed back through the heart and to the lungs for arterialization. In this way, with what is added by respiration, every portion of the body is supplied with the necessary material required to sustain life in the organization.

But in addition to all that it is possible to describe here, relativ to the vital system, there are many functionary features, of which it would be discouraging to attempt to render the faintest idea.

Then here we hav the living principle of the human being, and the mind of the reader will not fail to notice that all creatures, as well as human, are possessed with similar circulatory organizations.

But were it possible that this vital system could exist without the nervous, then such an organization would not know that it possessed an identity; and if void of the muscular alliance, then the vital and nervous, although they were able to liv and think, yet they could not act, or stir, or render any mani-

festation whatever. Therefore, here comes in nature's absolute necessities, whereby in order to constitute a living, moving, and thinking being, these conditions must be provided.

The circulatory system renders nourishment for the support of the nervous system, whereby these various and numerous fibers may act as electric conductors, ramifying to every portion of the physical organization, and centering at the *medulla oblongata* or cerebellum (the backward portion of the brain), whereby an electro-magnetic battery is produced. Now, since we hav reached this principle of nervous control, let us revert back to the fact that the vital power of the system could not exist for an instant without it, neither could the motor, but that each alike depends equally upon the others, thereby constituting a harmonious trio, necessary to the existence of animation. Now, here is a principle of general government which presides throughout the organism, and a mutual agreement of bones, muscles, nerves, and blood, and all their varied action. Whatever was essential to create the necessary results has been provided just to a sufficiency. First, the physical framework of articulation at every point needed, and nowhere unless required. Second, the attachment of the muscles to the bones, and the philosophical perfection with which they are applied, and the number necessary by which every member, joint, or organ, can act in every way the habits of the creature or being may demand. And it is interesting to consider the fact that the fibers of which these powerful muscular tissues are composed are finer than the unassisted eye is able to discern. It takes, as nearly as can be estimated, 11,500

of them, when laid side by side upon a plain surface, to span an inch, and yet these fibers are so woven, spliced, and plaited as to possess contractiv power equal to thousands of pounds in weight. For illustration, extend the arm, its length upon a table, then place a twenty-five pound weight upon the hand, and raise it to the shoulder. Now, in imitation of the arm, fix a mechanical contrivance to raise as nearly parallel to it as with the arm, and make the attachment proportionately the same; then apply your windlass and raise the twenty-five-pound weight. I scarcely need state what an immese cord it may require to raise it, or the force to be applied, but suffice to say, the draft of a good team will scarcely be able to accomplish the feat. This is no exaggeration, but on the contrary the exaggeration goes the other way, and beyond all conjecture; but here you hav an excuse that the volition of the will associates an electric force together with the mechanical principles and muscular action that in no other way can be applied. Now, let us here pause a moment to consider whence the primary influence of this enormous force. You discover at once that it proceeds from the electric center. But how wonderful it is that when we seek at this nervous center no force is to be discovered, and so delicate it is that the softest silk would soon paralyze all action thereof, and it could not stand the puncture of the finest cambric needle without separating the spirit from the body! Therefore to fill the requirements nature has provided the motor nerves in order to operate the muscular system. Next to consider here were numerous organs of the body, that must act in unison with each other. Now as the mind of person or ani-

mal has no control over those functions, therefore nature has furnished the requisitions. Consequently there are for the purpose named certain pairs of sympathetic nerves, which neither feel, nor are operated through any volition of will, but by nature are instructed through involuntary action to work mutually together, whereby to keep in regulation and harmonious order the operations of all this physical machinery. Without this necessary prerequisit of the tenement all circulation would at once be at a stand-still. Yet still here come in another necessity. The various parts of the organization are liable to violence and to get deranged, to become poisoned and inflamed, ruptured, broken, or detached; and there are no means, as yet, from anything referred to, by which the person can realize such injury. Nature makes a special provision. She provides another set of nerves, which shall neither act upon the muscles nor in any way work physically upon the tissues, but whose sole business is to act as guard against the approach of all danger from violence, and render timely warning. These are the nerves of sensation, and it is interesting to contemplate how justly, systematically, and economically they are distributed. Where the danger is greatest there the sensation is rendered most acute, and when any injury is received the tidings are instantly telegraphed to the nervous center. These nerves are very numerous, so extensiv as to defy the point of the finest needle to thrust the person without coming in contact with one or more, which may readily be known by the sensation felt. A volume might be written on the natural adaptation and law of compensation displayed in the working of the human

system, but before a person is able to even describe the outlines of his physical being he becomes lost in his nothingness, and will decide that a lifetime is too short to learn a hundredth part of what he possesses in his own being.

It is obvious that nature has used the material at the best advantage, and incorporated the greatest force in the smallest space she was capable of. There is not a feature to be questioned but what returns a useful answer, and the inference would go to show that it is a very costly house for the short time it is occupied. Perhaps to build a mechanical structure in imitation, in all the minutiæ, of the human organization, it would not cost less than a million of dollars, but the work would need to be as large as a small world in order to find room for half of the parts.

It is interesting to notice how appropriate every feature of the organism is for its use, and the lesson which this grand phenomenon carries will scarcely fail to be seen.

Consequently in summing up we conclude, since every prerequisit is exquisitly represented for the accomplishment of nature's grand end and aim, so man livs for a purpose far greater than that known to himself. The material substance of the body, carrying inherent with it the principles creating the physical forces, operating through electric currents, connecting at one great center, results in the establishment of the realization of an identity, or in other words, a thinking soul. On this principle, why might not any electric battery be representativ of an identity? We would reply that electricity, like light, color, sound, and heat, is transmitted by vibra-

tory waves, and their varied effects are in accordance with the tensity or intensity of vibrations. With the action of electricity on the nervous fibers, the force is confined, and the vibratory effect is exceedingly intensified, doubtless reaching to millions of waves per second, or at least to such a degree that the necessary effect is produced. There is a very similar operation in relation to the vibratory waves of light, by which the principle of vision is effected. The mere mechanism of the eye is not difficult to comprehend, and the sensation of the optic nerve is intimately connected with the nervous center; but how we are made conscious of objects at a distance, when in reality the perception is exactly and only at the retina, is the point in question. In experience of some years ago, while experimenting with colors, I found that if color could be made of precisely the right tint, and placed exactly at a certain distance between the eye and a background made also of a certain tint, the object between would be invisible to the eye, while at the same time it would hide an object placed directly behind it upon the background. This is occasioned by the peculiar effect that the color has upon the eye, owing to the exceeding intensity of the vibrations by which it is rendered invisible. We may hav occasion to refer in the course of this volume to the fact that the clearest eye may, from a similar reason, be unable to behold objects which actually exist in the atmosphere close before it and in the presence of daylight. In exerting the eye to behold something that the principles of vision will not permit to be seen, either through imagination or else from discerning more nearly the fact, the air almost appears vaporized and in a meas-

ure unclear to the sight. Some hav learned certain lessons from this which from fear of taxing the credulity of my readers I will for the present forbear to state, but will do so anon.

In returning to the conditions of our theorized man, the inference will doubtless be by some that when dissolution takes place with this electro-magnetic machine, the identity to which we hav referred will be absolutely a nonentity; but we promis not to clash with any inconsistencies, or let slip a cog in the course of our logic, in the event of showing to the contrary. But for the present we must return to the subject of our living, acting, and thinking planets. In the event of showing the conditions upon which an animated creature or being sustains a realization of its identity, as a necessity, those forces which giv rise to the phenomenon of thought in one creature are identical with those which render thought to another. All animals, birds, beasts, fish, and insects, are of thinking nature as well as human; and the indentical principle pervading one pervades all. Each is organized to act in its sphere, and is therefore endowed with intellectuality and inclinations corresponding therewith. Do not call it instinct with one any more than with another, for it is too easy a way of disposing of the subject, and the word is too nearly devoid of all meaning. The sphere in which any creature acts develops the organism through the influence of inclination in accordance with the law of compensation. Consequently each is compelled to fill his place, since unadapted to fill any other.

The insect is just as wise in its sphere as man in his, and if any principle exists whereby the identity of man is perpetuated from life to death, and death

to birth, the infinitesimal creature has just as strong a claim as the ego. If the fly obliterated with the lash does not retain a consciousness of its entity, then man is forever nothing beyond the physical dissolution. But we shall see anon.

An organism so constituted as to absorb electric force and throw off the same, to the degree of action with which this force operates, so in the same degree is the life principle manifested in the creature. This is the reason why some are activ and strong, and others weak and sluggish. The difference is occasioned by the difference of the physical perfection and texture of system. It matters not what the form of the organism may be, as far as the necessary prerequisits of thought may depend, only that there must of necessity exist an electric center, also currents of electricity tending from all of the living parts to that center.

We hav in the organization of a world all of the qualities and conditions essential to the development of thought; and since this is nature's most important object, and, in the way of her business, costs her nothing, the inference is plausible that earth, as well as all heavenly bodies, is a being of intelligence. And since all that animation can receive must necessarily come from the source of the world on which it livs, the sun's rays of light and heat considered, how is it possible for the planet to supply all creatures with the principle of thought and possess it not for herself?

If the organization of the human system could be regarded as a work of mental calculation, what a giant mind it would hav required to produce it! Were any of the species originated through the

exercise of an intelligence, how far beyond man's abilities must the attributes of such a nature necessarily reach! But we hav the results, and something has produced them, and it makes no difference what name you apply, whether blind nature or infinit intelligence; as long as animation exists, there also must exist the fountain of its nature. The universe is full of testimony to this effect, but man's practical nature, constantly riveted to the one object of self-preservation, is unable to discern this substantial evidence before him, and the use of words cannot express a meaning sufficient to lead an unappreciativ mind to the facts to which his nature is blind.

In surveying any department of nature, we find everything definitly systematized. There are no accidental hits or malformations except they are occasioned by obstructions. These nature endeavors to overthrow, that her work may be always of definit precision. In the mechanisms of man the accomplishments are comparativly rude, and the grand results of all man's enterprises how illy compare with nature's most insignificant designs!

Grand results proceed from proportionately grand causes, and if we rest upon the existence of no intellectual forces outside of animated manifestations, it looks like a poor basis for the wisdom displayed in the formation of solar systems, the origin of the species, the evolutionary changes, progress of intellectual development, and, in fact, the harmonious order of the universe.

We behold the rapid changes that matter is constantly undergoing, and while in the earthly form we exist, we can only discern the changes taking place in the material substance visible to our eyes; but in

viewing all this we realize not at all the ultimate causes producing such results. It is the power that lies hidden from our vision that accomplishes the work. You know the affinities of certain elemental substances and the effect of their combination, but the cause whereby they operate so you are unable to fully comprehend. Therefore to proclaim that there is nothing where there is nothing to be seen is very doubtful reasoning. The machinery by which the railroad trains are drawn possesses in itself no force, but is operated by the application of power that lies hidden. Therefore all tangible effects arise from invisible causes.

For any creature or being to decide that it exists merely for its own satisfaction is assuming more than is justifiable. In the mechanism of human ingenuity, works are not executed for the satisfaction of the work, but for the satisfaction of man, and man, not the originator of himself, consequently does not liv merely for his own satisfaction.

We are but agents for a higher power, working for the accomplishment of something to which we are entire strangers. The mere matter of living from day to day during this transient life, and then dying to all eternity, is not an object worthy of nature's design. It would be too much like the fickle undertakings of man. It is too mysterious how we come to occupy this sphere at all if death closes the scene forever. Might it not be possible that some natural principle could perpetuate our identities to another sphere quite as consistently as to originate us into this one?

NATURAL ADAPTATION.

In treating further on the progress of intellectual development, it is interesting to notice how the laws of adaptation and compensation facilitate in the accomplishment of this great work. This is a subject so commonly treated that there are but few new phases to be presented; but, in order to reach certain points in relation to my theme, I must invite your attention to a few suggestions well worthy of consideration. If we were more given to reasoning upon the affairs of every-day occurrence, the very things which are continually exhibited before us would offer a far better elucidation of this subject than is possible to render with the pen; but it is surprising that we may liv a life-time, and yet the most common things around us seldom appeal to our understanding.

It is not a wonder that all creatures are organized so as to travel in the direction they look; but, having always seen them do so, it would seem a botched job in nature were any organism to see in one direction and travel in the other. However, it might be argued that if the creature had been so fashioned, it would never hav known any difference; which may be so, yet it would certainly be a great source of inconvenience. But as matter was forced to develop into living creatures, on the conditions of "struggle for life," no creature could ever hav had its origin without the means being afforded for its self-preservation. Consequently all the characteristics of the creature are of necessity made to correspond with the position it is to occupy, and the mental nature is also adapted to the physical structure. The peculiar inclination of thought either has a controling influence to shape

the physical organization, or else the form of the body can admit no other mental inclination to dwell within it. Whether the mind shapes the body, or the body shapes the mind, has been questioned; but our answer is that they act by mutual agreement, therefore the premises are equal. What develops the mind to its sphere is condition, and what develops the body to its sphere is condition also; consequently the form of the animal or the being represents its mental characteristics For illustration, the dog has a peculiar sphere to fill, and his mental characteristics and natural inclinations adapt him to his sphere; and his physical make-up precisely corresponds therewith. His keen scent for meandering the track of animals he is trained to pursue gives him a knowledge of the animal fleeing from him and renders him able to run with his nose close to the ground. The action of running in this way would be most unnatural, aside from the development of it, alone through the power of scent. The tail of the dog is a necessary appendage whereby to facilitate in turning. It is controled by powerful muscles, and is forcibly exercised upon the atmosphere on occasions of sudden turns, or when rapid gyrations are to be made. His ability of looking forward while the nose is pointed to the ground is a feature most natural to the canine orders, or more particularly those animals which are guided by scent. The muscular action of the ear, by which he is enabled to close out the noise from behind and open up to that ahead, is another feature of facilitation by which he is aided in the chase. Now the inclinations of the dog is such that he enjoys the sport, as well as being by organization adapted to it. On the

other hand, let us consider the game pursued. The eyes of such timid animals as the hare, rabbit, deer, antelope, etc., are so set that they can see behind them when running, and their ears can be securely closed to the noise ahead and open to that behind them. Organized to run and flee from danger as their only means of defense, their forms are slim and lithe, and their bones and muscles of the finest texture. Being pursued, they are therefore necessitated to make sudden turns to escape the enemy; consequently the tail appendage would be an incumbrance, therefore it is only provided as a roof, or shelter, to protect the body. We therefore notice that while one is endowed with the faculties to pursue, the other is provided the means of escape; and in this way nature has rendered nearly an equal chance for self-preservation to all of her species. It might look like a contradiction that one animal must hav a long tail in order to turn quick, and another one have none at all for the same purpose, but the fact of one fleeing to escape, and the other running to overtake, accounts for the difference, the former making the track for the latter to follow.

If carnivorous animals possessed an inclination to eat hay and grass as well as the flesh of animals, they would find it very inconvenient doing so with the same kind of teeth and stomach furnished them; but if it were possible for them to sustain life upon vegetable productions, and they were compelled to subsist, nature would gradually change the character of the teeth, stomach, and physical make-up generally, to correspond with the kind of food the animal was compelled to live upon. The first generations would be but slightly changed, but each succeeding one

would become more and more adapted to the conditions, and they would eventfully become herbivorous. So in the same way, by a gradual development, might the herbivorous be grown into carnivorous natures. Nor would such results be necessarily impossible to accomplish. The elements which are in meats are the same as those in vegetation, and it is doubtless a fact that, by an established change of diet, the character of the animal might be greatly modified, and in the course of many generations be entirely changed.

The physical habits of animals, as well as form of organization, doubtless could be as greatly changed by gradual development through the course of successiv generations as the nature of food and mode of living. For example, the hog, domesticated to the habit of gluttony, originally was an animal lean and thin, and very fleet, also a terrible foe to encounter. Compare the fat hog, with lopped ears, grunting lazily in his pen, with the ferocious wild boar, with his long legs and lean, lank sides, and ears almost firm enough to answer for horns; who could imagin any relationship ever existed there? Still, as strange as it may seem, even a greater difference might be made, and the hog, as unnatural as it might appear, by a certain course of diet, education, and treatment, could be developed into a roadster, to draw a buggy, and travel with good speed.

There is no animal that may not be domesticated, and any in being subject to the control of the human will is greatly modified in its nature. If some change is made by moderate training, a greater change might be effected by more rigid and torturous handling. In considering this subject to the ul-

timatum, it might seem to some that we carry this cultivation of physical and mental training beyond all bounds; still we have reason to feel justified in the following suggestions.

In the origin of man we are of the opinion that he has arisen from no particular source, but from the general source of all animation; however animation, like vegetation, is definitly classified. The same elements may exist in various kinds of vegetable growth, yet a wide contrast be represented in the productions. In like manner the principle of animation, awaking to consciousness all the various grades of creatures, arises from the same great fountain, but in being apportioned out to fit different tenements, for the purpose of filling various spheres, the numerous species are thereby established, and in order sustained and perpetuated. The physical and intellectual progress of undomesticated animals is not apparent. The physical strength and mental qualities of birds, beasts, fishes, and insects were equal four thousands of years ago to what they are to-day. In no degree do any of these species approximate any nearer to the human than they ever did. How, then, has man originated through gradations of animal development tending to his sphere? This would infer that man was as definitly man, as corn is corn or wheat wheat. Still it is easy to discern that of all the category of the animated species there is not one to be found that does not resemble man to some extent in physical form; and it may be said of all the different seeds in existence, the germs developing the embryo in symmetry are the same; still the grain of corn can never be made to produce the stalk of wheat, nor the potato bring forth the pumpkin.

Yet we must positivly assert that the life principle controling all centralized identities is definitly the same, and that which givs rise to all vegetable productions the same also. But new species arise from the effects of miscegenation, higher in grade, and more excellent in quality, in grains, fruits, plants, and flowers; and the same laws reign throughout animated nature. Here, however, it would not be out of place to remark that all admixtures are not good, but originally when grades and varieties were less definitly defined, the results of engrafting were more extensivly representing. In the progress of the earth's developments, it is a law that the highest qualities supersede; therefore, in the propagation of wide contrasting grades, the redeeming excellencies of both survive, while in the engrafting of similar stock, the excellencies of one are buried in the other, and the progeny is liable to be impaired. Two similar substances combined assimilate smoothly, while a positiv and a negativ result in the generation of force superseding either.

The effect of torture, to a certain extent, exalts both physically and mentally, while an excess of it degrades. It requires action to strengthen, while over-action weakens.

The natural inclination of all animation is to seek enjoyment, which illusivly infers a state of rest, but which in reality requires a condition of activity. An over-amount of rest creates uneasiness and leads to stupidity, and occasions an abnormal condition of both body and mind, and were this desire indulged in, the world would retrograde. Nature has a remedy in the necessity of all creatures being compelled to seek their own sustenance, in the "battle,

for life." Hence, where physical action is but little required, mental qualities are poorly developed.

Rigid and long training out of the natural course of the animal or the being gradually changes their physical and mental characters.

For illustration, if the dog were made to ambulate on his hinder feet, and never allowed to put his fore-feet to the ground, and continue so to do for many generations, the effects of such training would be transmitted to the progeny, until nature would adapt the creature to the conditions. It is hardly necessary to state the many physical changes that would occur in reaching such a state of development. While, on the other hand, if man could be enslaved to the brutal torture of ambulating as a quadruped, for a series of generations, he would at length become adapted to the conditions; for in acting to fill the place of a beast he would become one.

From this it will be seen that while each species is definitly represented, sustained, and perpetuated when acting in its natural sphere, yet it is subject to modifications by the influences of circumstances. Even the change of climate, which necessarily changes the habits, in the course of time changes the nature of the animals, and as great a difference is wrought in vegetation.

Therefore it is not the different nature of the life principle that establishes the different species, but the condition of existence to which the creature by nature is subjected. All are of one life, subsist on the same elements, breathe the same atmosphere, and equally realize their identities. The existence of the merest insect is as dear to itself as man is to himself, for the realization of its identity is equally

as strong, consequently on the basis of self-preservation the species are perpetuated.

Besides the natural inclination that each creature possesses to protect itself, it is furnished by nature with other qualities for defense. Through the sense of smell and taste the presence of poison may be known, unless other means are provided by which to ascertain; therefore the animals readily reject poisonous herbs without having to experience their direful effects. Infectious atmosphere in the same way reveals itself. Man is more liable to the effects of poison than animals, being governed by reason more than by intuition, also from seeking various artificial ways of perverting the appetite, whereby the habits are cultivated for imbibing poisonous substances for the impregnation of the blood. Unnatural appetites in this way are created, which are often entailed upon posterity, and as a due punishment nature robs the intuitiv ability of always deciding upon what is most wholesome; but, agreeable to her laws, she even adapts the system to the assimilation of poison, and in man's extravagance compels him to keep up the supply.

In an abnormal condition of health, the struggle of the system against the foe is a battle of the hottest kind, and artificial remedies are usually a poor dependence, the administration thereof proving in nine cases out of ten inefficacious in aiding nature, and really injurious. The philosophy in administering is but to aid the system in conquering the disease.

Another of nature's protections is shown in the manner in which the arteries are deeply laid or imbedded beneath the surface and the guard rendered

by the distribution of the nerves of sensation outside of them. The veins being distributed between the arteries and the surface, consequently are more liable of being severed; but in the event of a vein being injured, it is not apt to result in the loss of much blood, while if the arteries were distributed as close to the surface as the veins, the death of most persons would be likely to be that of hemorrhage. A nice provision in the human and animal orgnizations.

Another fine example is shown in the transformation of the larvæ into the chrysalis and the provisions made by which it shall endure a long cold winter, with occasional temperatures at zero and lower, yet gorgeously unfold and cast off the old case of long protection, to rise and sport ethereal in the sun of spring and summer, subject to being made a victim of the aerial tribes, yet strange to notice that the mode by which nature has endowed it to migrate through the air is illusiv to the keenest eye of the bird for reason of the zigzag motion, accompanied by the dips, scollops, and circles, whereby the eye is deceived, and the attempt at seizure results in a failure.

The protection rendered to progeny is also another feature of nature's tender care. The influence of parental love is displayed among all living creatures, and more hardships can be borne, more privations endured, for the children we are called to provide for than in any other way. That this might be so it becomes the highest source of enjoyment to administer to their wants on all occasions our most fostering care with the sincerest affections. It is a wise and generous dog that will carry food to the

child when lost in the woods, but an unmerciful bird that would fail to furnish sustenance for her young.

Another feature we also discover in the instinctive feeling for safety displayed by all birds, beasts, fishes, and insects in fleeing from danger. Take from animation these various guards of natural protection and it would be but a short time before the world would be deprived of animal life.

It will be seen from the foregoing that the principle of intellectuality must pervade in some way throughout all the universe, or else how can the manifestation of such wisdom be so grandly displayed in every department of nature. The very fact that centralized intelligences hav their origin is a proof positiv that there must be a fountain from which they come in accordance with the mathematical principles of the means equaling the ends.

ORIGIN OF VEGETATION AND ANIMATION.

In the grand economy of nature, the evolutions tend toward the production of that which has thought and feeling. Not that there shall ever be any increase of the intellectuality of the universe, in the aggregate, but that in the operation of a portion thereof being separately developed, the divisions and sub-divisions extend almost to infinity in the production of centralized identities. This progress is not rapid, from the appreciation of our understanding, but copious and as certain to come about as though it were but a day; and although it has required a period of not less than five and a half millions of years for each from the gathering nebulous fluid, at

the origin of the earth, up to the present state in which we now view it, yet this immense duration has made no change from what it was to be.

Let us now contemplate the earth in her formation from her infancy, through the lapse of countless ages, down to the present condition of development. At first, slowly forming her nucleus, in the ethereal space, lately fertilized by some passing comet, and gradually collecting the material from the rarified condition of nebulous ether, less a hundred times in its density than the common air, yet the atoms, as minute as particles of sunlight, continue to unite, until far, far away in the great ocean of space, an accumulation of material but slightly denser than the rest of dungeon space, was floating there, left free to the waves and tides far in the sable heavens, and subject only to the spirit of the universe to comfort and control. View once again, when a million years have past (if years we may apply) at this stupenduous work of celestial fields—instead of this light, mild, and gentle vapor, heaving smoothly on the ethereal ocean, behold its compact center, glaring white with livid heat; and the broad globular boundary, spanning from her furnace center of roaring, fiery vapor, a million miles away, to where her gentle border floats, in tranquil quietude, far from another shore.

Now once again, a million years have fled—behold the scene! A plastic ball, far lessened in its size, with denser portion central, molten with intensest heat, and blazing gases reaching far away, and by degrees the wasting boundary vanishing in gloom.

Again, a million years gone by—the livid sea, slow-cooling, tranquilly subsides, and glaring wave

of liquid fire has solid grown, into a mass of deep, impenetrable rock, in either polar zone; but wide between, the equatorial band to heaven displays the awful map of melted earth; by force centrifugal high-raised in plastic ring, encircling earth around; while awful winds in heated fury rage, and with tempestuous roar drive maddened on.

Once more in vision view another million years past by. The solar orb has in the nebular mist, in redness just commenced to shine; but earth in awful agony is heaving forth in huge commotion, and rending wide and long her surface crust. This awful lava, thrown far to the hights of air, falls back upon the lap of earth and sinks beneath with penetrating force; then with a heaving surge the chasm levels up and closes in. Not yet has oxygen and hydrogen combined to form the watery element, and while the dryer gases concentrate to form the densities of earth, the intense heat drives far outside, where in a state more rarified dwells the hot, misty vapor, which now doth form the oceans of the world.

And still another million years doth flee, the watery vapors of the heavens doth form the waters of the earth. No land exists upon the surface now; 'tis but as one grand globe of dashing sea. Where there no water was, now unto heaven, nought but water doth appear, and darkness long had covered o'er this boundless ocean wide.

The elements are now at work, and long at work shall be, before the land or rock shall rise to view above the wild and dashing sea. As this enormous furnace globe doth deeper in its progress cool, the waters more with earth combines, and earth unto the process yields. And still the surging waves do roll,

while wild tornadoes rush along; and as the heavenly music swells in accents of celestial song, behold anew the earth is rent from Arctic sea to Southern pole, all nature trembles at the vent, throughout celestial regions roll; and echoes back to earth again as pours the lava far and wide upon the dashing watery plain, which boiling in its angry roar, drowns every other noise besides; and thus from this condition gradually continuing onward in its progress, the earth laboring under the forces that control and guide it forward to its grand object and end, in the course of many thousands of years reached that condition of development when the natural forces, through chemical affinities, operating in the elements sent forth vegetation. Therefore, as a necessary origin of all vegetation, we must look to the elemental principles existing in the earth, preceding the existence of any centralized seed or root, as a source from which to grow. Consequently, according to the nature of the soil, locality, or climate, came forth the numerous varieties of plants, trees, fruits, and flowers, as fast as the conditions of the earth and fertilizing influence of the sun would allow them to develop. But why did all of these peculiar varieties arise, and whence the word that said grow, and they groweth? Why are they so definitly classified and earnestly perpetuated? In reply, these were the hidden qualities that nature forever inherently possessed, and the principle of origin as virtually existed for each class or kind, a billion years before it presented its delicate growth to light, as on the day it came forth. The operations of nature are not without a purpose, and the formation of worlds is for their being appropriated to important use. There-

fore if nothing was accomplished by their existence in nature's economy, they never would hav been. Consequently something must grow from them. The production of vegetation is one of nature's indispensable resources, without which each would be but a blank or a cipher. The necessity of vegetable growth is shown in the non-existence of animal life without it; for in the development of vegetation it is in reality equivalent to the ushering into being a lower order of animation. Nor was it necessary that a special provision should have been made for the origin of plants, fruits, or flowers, beasts, birds, fishes, and insects, or man, to hav put in their first appearance in any particular place, wherefrom to be distributed to all parts of the world; but on the contrary, the origin of each variety of either animal or vegetable productions depended wholly upon the conditions of the material elements and principles pervading therein, or, in other words, the laws of evolution. Consequently the origin of all of earth's productions was as general as their after-growth, on the conditions that what the material of earth and climate would sustain and perpetuate it would also originate. This might appear at first thought inconsistent with the facts of rearing in one locality and transplanting to another, but we must not forget that in those primeval times man did not exist to cultivate and improve, and what comes forth must come wholly from the hand of nature, and man himself was a portion of her divine labor. The primeval condition of neither vegetation nor animation was rich in perfection, as now represented to our view. It is astonishing when we know the source from which some of our most luscious fruits hav pro-

ceeded; also the great improvement that the progress of time has developed in all domesticated stock; and the intellectual development of man, by retracing the progress of history, is quite as apparent in the general course of nature as any other improvement to be noticed. Therefore, as we hav already seen that all things which depend upon the earth for their growth and development must also depend upon the progress of the earth in her developments to reach their highest perfection. All the works of art, in one sense, are but the works of nature, and all the imperfections, as we view them, are only occasioned from the lack of perfect developments. While the great wheel rolling represents the progress of nature, the wheel within that wheel represents the progress of art, and the slow or rapid progress of the smaller wholly depends upon the progress of the greater. In viewing earth through the various phases we hav represented her, in our visionary description, it hides from our understanding the existence of any centralized germs for either vegetation or animation; but now that we see these productions around us, we know that nature possessed the principles of generation for them all in the natural forces that material possesses; consequently this does away with the erroneous theories on the distribution of the species, some of which hav even inferred a particular locality on the earth for them all to hav had their origin. New species of both animal and vegetable growth are still coming into existence, while some of the old are going out, which shows that the present age of the earth is non-supporting to certain productions which at a different or past age she once sumptuously sustained. It is unnecessary to offer illus-

trations to exemplify these facts, as nature shows it more clearly in both the vegetable and animal kingdoms, and in more ways than I hav time to show with the pen.

Each production, whether animal or vegetable, has its time in the age of the world; but as the species are comparativly few when properly classified, it is not common to notice a new species appear or an old one to become extinct. Certain vegetable growth is concomitant with certain animal life, therefore both abide during the same period of the earth's age. Man, originating from a general source, not in any particular locality, came at a late period in the age and developments of the world, being far less perfect in his organization and mentality than we now view him, but more hardy to withstand the conditions of his natal birth. Originally gross, both in organization and in intellectuality, even more so than those nearest to the "connecting link" of to-day, yet through successiv generations he has developed into his present state of enlightenment. Still the grand acme of human perfection is not yet reached. We may look back with horror upon the barbarity of ancient times, while those living but a century hence may regard the best of us, in a social sense of view, in a state of semi-barbarism. But there is an end to all perfection, and when that end is reached by man what more has nature to accomplish by his existence being perpetuated? When grain and fruit are ripe the time for harvest has come, as much so with the crops that grow for nature as with those which nature makes grow for man. More anon.

As a theory we now claim that there is no material substance in the world but what possesses the prin-

ciples of vegetable and animal life, and if it were possible to trace any material down to its atomic minuteness it would disclose either one or the other or both. The electric effect of any material is indicativ of the life principle pervading it. In the combination of simples for the formation of compounds lie the principles of decomposition and reconstruction. The life principle pervading the former in molecular forms is either reorganized in the latter and by miscegenation transformed to a class of life on a medium line proportionate to the parts involved in the admixture, or else dies to that composition and in the form of other life escapes by effervescence to mingle with the atmosphere.

The dual qualities of gender are inherent in any or every substance, and these extend from organizations through molecular conditions down to atomic minuteness. These are the positiv and negativ principles that all matter possesses, producing the magnetic affinity that controls the particles in the formation of densities, and generate the electric force productiv of all the motion in the universe. It is equivalent to the attractiv and repulsiv forces that all matter possesses, without which all matter would stand forever silent and still; even the winds would cease to blow, and all nature would be virtually dead.

Then, in conclusion to our theory of spontaneous generation, we must decide that the grand principle of germination must lie in matter in its minutest division. Therefore, reasoning in this wise, we arrive at the following facts: Since matter is susceptible of divisions and subdivisions beyond the ultimatum of our discernment, the atoms which are matter in its minutest form must involve the germs of all pro-

duction, for there is where that all growth begins, and from these points infinitly small is where all nature's accomplishments are outlaid. On these all nature's varieties and species are based, and within them dwells the "leaven which goes to leaven the whole lump," and in them lies the latent germs from which all productions arise.

And life, which in them ever reigns, shall never, never die, whether imbedded in the earth or regions of the sky. A million years may pass away, the atoms are the same; a million ways they may apply unaltered as they came. And still in activ unison most freely they combine as willing agents to accomplish nature's grand design. But, what is nature? would you ask, and what would she attain? Is not her labor all a farce, nonsensical, and vain? If not, vouchsafe to tell us now the object and the end of her great wheel of progress, and how far it will extend.

In answer to this problem come the mystical replies, from this field of speculation many vagaries arise; but according to our theory the end will ne'er appear, each life is in the present and adapted to its sphere; so with atoms, planets, systems, through the universal whole; all substance nature's body and all intellect, her soul; and her life is all eternity, therefore, can never end, and her works of evolution up from particles extend.

Then, as has been shown, everything that has growth was originally of spontaneous production; and this being true, if all the species were non-existent to-day, and every seed and root obliterated, the most of them would be reproduced. But the older the earth becomes, the less able she is to giv

spontaneous origin, as she is gradually passing that era of her generating power. The new species that arise at the present period are mostly allied to some of the classes at present extant, and most of them, doubtless the result of miscegenation. The lack of spontaneous power is occasioned from the fact that all of the life force at the present time centralized in vegetable and animal growth once existed in latent condition indiscriminately mingling undeveloped in the material; but now all the forces that are displayed in the growth of vegetation, or manifested by animation, or appreciated for the operation of all machinery; all alike are generated from nature's great common fountain, and all that are appropriated in one way cannot cannot be elsewhere, as nature possesses just so much and no more of each and every principle, and what is in one place cannot be in any other. Were all of these forces here alluded to at once robbed from animation and vegetation, and let to return to inorganic material, then all manifested life, as we view it, would be dead; but this power inorganic material could not retain, hence the life force would again result in the origin of the species, the same as it has done.

INTELLECTUAL DEVELOPMENT.

Since all the evolutions of nature are accomplished by action, therefore action is the grand order of the universe. But as motion implies the existence of something to be moved, it is obvious that devoid of matter a dead silence would reign. Nothing is in a state of immobility, for all planets move, and, with their motion, carry everything else, while all atoms are continually changing their positions in whatever substance they exist.

Then, next to the broad principle of matter, comes the action thereof, and having already decided on the eternity of the elements, since it is impossible to imagin at what particular time this great universal machinery was set to running, we shall likewise decide on the eternity of motion. However, there are substantial causes for evolutionary changes, but, like all other principles, the causes dwell inherent in the elements.

Then, as a rule, every atom is at work, forever has been, and forever shall be, but the action thereof is controled by a law, inexorable, yet forever silent and still. This law is subject to no modifications, and no power can ever transgress thereupon, still it forever abides as the fountain of all force without its power being in the least diminished. And this is the law that calls all things to a common center, namely, that of gravitation. And this, also, is the fundamental principle of all action, for upon the basis of it not a thing can move, however diminutiv, without leaving behind it a proportionate vortex to be filled,

thereby displacing some other material adjacent to it. From this it will be seen on how sensitiv a condition the universe is established, and how infinitly extensiv, through both distance and duration, the slightest action may render its effects.

In the action of force there illusivly appears to be two counteracting principles, the one to make a projectil go ahead and the other to make it stop. To these we apply the name of centrifugal and centripetal, the former being allied to attraction and the other to repulsion; but both are governed by the law of gravitation. In the first place, without this law no generation of force could occur, and if without it action could originate, there would be no way to expend the force; therefore it could never stop. This in a degree is verified by the heavenly bodies revolving in their orbits; the heavens are so rarified they offer but little obstruction, while the attraction of the sun yields outward nearly as much to the centrifugal as it takes inward to the centripetal.

As a rule, all the forces generated from the earth react upon it to the extent of the power exerted. For example, it is the attraction of gravitation that lifts the bombshell upward when fired from the mortar, and the action backward is just in proportion to the force exerted forward, and the same law creates the concussion by the force exerted upon the atmosphere, without which no report could occur. This attractiv force upon the air occasions that which is lighter than air to rise, just as much as that which is heavier to fall. Therefore we establish on the basis of universal gravitation that all forces generated from the earth correspondingly react upon it. The atmosphere, the fluid in which we liv, is illuslvly re-

garded next thing to a mere nothing, but it is virtually a portion of the earth, and a ton of birds in their flight press just as heavily upon the earth as though standing contiguous to it. Therefore the forces exerted in the use of machinery press somewhere upon the earth an amount corresponding to such forces applied.

Two things are said to hav a repulsion for each other when there is no affinity between them, but each, having a greater affinity for everything else than for each other, necessarily must move apart instead of together. Hence, primarily the law of gravitation is the cause of repulsion. It might be said that the earth has a repulsion for a balloon, therefore it causes the balloon to rise from it, but it needs no explanation to show that the earth has the same proportionate attraction for it as for anything else, but its volume being greater for its weight than the atmosphere, it must therefore rise instead of fall.

Weight is based upon the laws of gravitation, and is a reliable guide as to the amount of downward pressure any material or commodity may exert in the same density of atmosphere. But the further we rise from the level of the sea the more rarified the air, so likewise proportionately less the force of attraction upon a body, as well as upon the scale used in weighing; therefore the same body will weigh very nearly the same on the top of a high mountain that it will on the level.

Then, to conclude, we decide that all force is pressure, and all pressure is weight, and all weight is based on the law of gravitation.

The principles of attraction and repulsion when ap-

plied to the voluntary actions of animated creatures is worthy of notice. So peculiar is the condition of each creature in life that each is compelled to move in order to obtain the means to gratify its necessities, and humanity is reckoned with the rest. Therefore what we desire we seek to obtain; and, agreeable to the law that prevails with inorganic material, we too are moved by that which attracts us. Therefore, when hungry we seek food; when thirsty, drink; and when weary we seek a place for rest; and all of our actions when fully analyzed tend to the satisfaction of our selfish natures; consequently, "self-love, the spring of motion, acts the soul." Many of our actions are for the happiness of our fellow-beings, but this benevolence is as much for the gratification of our feeling as an act of a more sordid nature, and our reward is far greater for the performance of it. Therefore, by our voluntary actions we never do anything that we do not want to do, but illusivly it appears, so, however under the circumstances, all things considered, those things which we do that we would hav desired not to do, we would even pay something for the opportunity to perform.

Oh, wondrous is the fountain whence the forces take their flight!
Unchangeable the laws pervade secluded from our sight;
So telling is the action which they generate through space
That the elements all tremble from their power in every place.
Thus while in hidden silence doth that awful fountain lie,
Her agents beat commotion far through regions of the sky.
In the heated breath of summer doth earth's fluids wildly play,
Hot air through tunneled whirlwinds fast ascends and soars away,
While a tempest blast comes onward sweeping swiftly o'er the plain,
Pouring in a cooler current with the roar of hail and rain,

And the earthquake's awful heaving from her aching bowels display
The dreadful power of motion which no forces can allay.
Thus nature all her labor doth with industry pursue,
And work's o'er old material to build up bodies new.
Hence action is the order whereby nature's work is done,
And onward to eternity flies time as it begun
But the agents of commotion, sweeping all things in their course,
Rise up from that great fountain of great gravitating force.

SOUND.

Closely allied to motion lies the principle of sound —a principle wholly designed to represent nature performing her labor; therefore, as a rule, everything that makes a noise represents the character of it; but the question is, Whom does it represent it to? In this question comes the answer that such a quality as sound would never hav been but from the fact that there are intelligent auditors to listen and appreciate. Not to infer that ears existed before sound, but that a design is expressed by it that ears should exist to diffuse knowledge through the sense of hearing. So if out of the qualities and properties that nature possesses, the ear of understanding originates, then the inference is that in the past, present, and future the ear of understanding was, is, and forever shall be. How can nature form the ear without the appreciation of sound itself, whereby the necessity of this organ is known?

There are many curious and very illusiv things in relation to acoustics, but it is not our province here to expatiate upon them. In the first place, without

motion there could be no noise, for sound is conveyed by motion. The universe is constantly full of music —the waves of sound are forever vibrating wherever there is the least manifestation of action. There is no place to be found where a sensitiv ear cannot hear a noise of some kind. We cannot hide from it. But even outside of the various noises audible to us, there are thousands of noises that we do not hear, as the audiphone attests, showing that nature's music will pervade, whether animated ears listen thereto or not. The waves of sound vibrate upon the densities and through the atmosphere, from all the action of nature, until a perpetual roar is created by the everlasting commotion of noises. But the ear becomes unconscious to many of the noises made, especially to those that forever dwell upon it, while other sounds less in violence and power are distinctly heard. The sea-faring man scarcely realizes the roaring of the ocean, while the landsman when on the ocean's shore can scarcely hear anything else.

As a rule, the waves of vibration are weakened in proportion to the distance they hav traversed, but doubtless they extend much further than is generally supposed, judging from the data of our inacute ears.

In the conveyance of sound, a corresponding motion attends it, and the sensitiv quality of material is clearly exemplified by the necessary trembling of every atom or fiber of substance by which it is conveyed. The key or pitch of sound is represented by the number of vibrations per second, therefore the tensity or intensity of the vibrations represents the key; and upon this basis the science of music is established. Too slow a degree of vibrations is pro-

ductiv of no perceivable sound, while too great an intensity is followed by a similar result.

In applying this portion of the subject to our theme, we include, as we hav already inferred, that this quality is established in nature, in behalf of animated creatures and intelligent beings; first, as a warning for the preservation of life; second, as a means of communication; and thirdly, as an incentiv to intellectuality.

How clothed in hidden mystery, the principles of sound;
How great the variations which doth everywhere abound!
Why does the constant music in our ears forever pour,
Likewise this wild commotion with its everlasting roar?
Why need the fields and woodlands all these choristers set free,
With such exultant music to express their joyful glee?
Why needs the hunter's rifle to so potently declare,
The danger of the missil swiftly hurtling through the air?
Go listen to the billows wildly beating on the strand,
Go step unto the accents of some instrumental band,
Or else pray turn your footsteps to the cool, sequestered grove,
Listen to the lowing cattle there, likewise the cooing dove,
Or hearken to the church bell, which sublimely tolls the hour
When man's praises shall be offered to appease God's awful power.
Listen to all nature's music, which in wisdom was designed,
As mandate to the hearing for development of mind,
Then ask, Would these grand principles eternally pervade
Except they were to be applied for intellectual aid?

LIGHT.

Another of nature's essential qualities is light. Without it not a plant could vegetate; not an animal could organize, and to our understanding the uni-

verse would be of no practical utility, because it would make everything else useless also, and of no more value than a blank, barren infinity of nothingness. Like sound, it is closely allied to gravitation, primarily depending upon it for its generativ product; being wholly subject to the action of materiality for its existence. Light, like sound, is one of the imponderable agents, but both possess more powerful effects than many other things of actual weight; and a noise sufficiently violent will create deafness, and a light sufficiently brilliant will create blindness, showing that too much of either than intended for the eye or ear will even destroy them.

As a rule, excluded from the light, all nature sleeps; and with returning light everything assumes the wakeful state of action. This is the case with all vegetation, and it is the natural time for sleep with all animation. Hence the provision of day and night; the former for labor, the latter for rest. The earth's diurnal motion renders these regular changes to every side of it, while the earth's inclination to the plane of her orbit brings the seasons in order, whereby nature makes the great solar lamp, the sun, the most useful possibly for the purpose. Other worlds are also lighted up by the same great luminary, and the fact will not be overlooked that nearly every one is set in the heavens on an inclination to the plane of its orbit, thus accommodating them all as far as possible to all the advantages of light and heat.

But since to us daily appears and disappears this great orb of light, we are prone to question what it is, of what it consists, and what constitutes the light. How was this light originally produced? and why

was not our world as much heir to such a divine legacy as the sun, or any other heavenly body? It is impossible to reason correctly from any other hypothesis than from established facts, and consequently from what we know. Now there are certain conditions upon which light is made manifest, and is displayed in various ways, from the innocent taper up to the dreadful conflagration. What is it? Simply the rapid dissolution of material under the disorganizing influence of gaseous combination. This operation is characterized by an exceeding friction from the rapid action of oxygen in combustion with imflammable gaseous substance, whereby heat is generated, and when this heat reaches a high enough degree of temperature ignition takes place. Therefore the same conditions that create heat, when intensified, create fire, consequently productiv of light. Now nature is judicious in her work, and economical in her principles, and since we discover on what conditions the light of fire is produced, may it not seem plausible that the same, when enlarged and intensified, would be productiv of proportionately more extensiv illumination?

A word more in reference to heat and fire may not be out of place here. Nothing is truly inflammable until it is reduced to a gaseous state. Wood will not burn, but heat will reduce it to a condition of carbonic acid gas, and as soon as this begins to combine with oxygen ignition is the result. Now this is one way by which light can be produced, and as nature has but one way to accomplish one object, therefore be it established that friction makes heat; that heat makes fire, and that fire makes light. Then the idea of the sun's being a livid body of fire, claimed long

since to hav been exploded, we resume again; and his radiant beams of gushing effulgence, making glad both ocean and land, vegetation and animation, with serene daylight, are but the radiation of light, produced from the great fire of all fires.

But some will question if the phosphorescence displayed from beneath the delicate wings of the firefly, or that exhibited by the glow-worm brushing its body with its tail, is not an exception to our established rule? We must answer, No! Some materiai manifests the presence of light at a very moderate degree of temperature. Even the rapid decomposition undergoing with touch-wood, or amimal matter when in a state of putrefaction, at a time when it is heated and the dew is falling upon it, a misty halo has been known to float above it from the effects of phosphorescent effervescence. While some things will light into a flame at a temperature that you can submit your hand to the blaze without injury, others will burn to a blister without coming in contact with them, even before their color has changed to redness. A temperature of sufficient intensity creates redness, and by increasing the intensity to a high enough degree it reaches the utmost perfection of whiteness.

It seems mysterious how a ball of fire in the heavens can continue to burn for millions of years without any diminution of either light or heat, and furnish both to as many as two hundred heavenly bodies, which are revolving around it in this solar system, penetrating a distance of over twenty-seven hundred millions of miles of dungeon darkness, and thrice colder than zero, and yet offering to all in kindness his genial rays of warmth and light, as each rolls onward in its magnificent grandeur, basking

in rich flood, pouring forth in beneficent glory from this most royal and heavenly fireside. But when we reckon the mass of material in the aggregate, which the said two hundred heavenly bodies revolving around the sun would constitute, and find that it would take ten hundred thousand times as large a mass as all of them would make to equal the dimensions of the sun, and then consider the fact that a portion of material from him, equally hot and light as his entire mass, of the size of a small marble would afford as much heat as a good parlor stove, and as much light as ten or a dozen good kerosene lamps, we will no longer wonder at his brilliancy, glaring heat, or sublime power.

We will here not forget to state that while the utmost darkness is the most perfect transmitter of light, the lowest degree of temperature in the rarified space of the heavens is the most perfect transmitter of heat. Neither the light nor the heat is absorbed in its transit, so that when they strike a heavenly body the whole force of both are rendered. But a few miles away from the earth it is not only very cold, but quite dark, for the light and heat reaching there are not radiated directly from the sun, but reflected from the earth.

In the appropriation of this principle to my theme its appliance is allied to the organ of vision. Had nature found it unnecessary to hav provided the universe with light her creatures would hav needed no eyes wherewith to grovel in darkness. This is exemplified by the absence of eyes with the fish found in the caves, and some animals living entirely secluded from the light.

ODE TO THE SUN.

Behold the radiant orb of light in rich effulgence rise,
And, gushingly saluting all, mount upward to the skies!
How broad and generous thy light shines equally on all,
As, highly-favored, forward rolls each grand celestial ball!
Each day and year, forever yielding thy accustomed force,
Thou seemest as each planet turns to circle in thy course.
All basking in voluptuous warmth, thy children round thee run
As if each conscious that their life depended on the sun.
Our little world, a sample sphere, awakens to thy light,
The hum of busy toil supplants the hush of silent night.
All eyes are open to behold the glory of thy beams,
Which were in darkness closed in sleep and laboring in dreams.
Imponderable thy light and heat, yet powerful thy sway.
If thou wert stricken out no life could scarce abide a day.
The deviations of our earth by inclinations made
How forcibly by all is felt and earnestly obeyed!
The rays of incidence, when bent but slightly more oblique,
Bring wintry blasts instead of summer breezes mild and meek,
And revolutionizes all such portions of our globe,
And spreads, instead of carpet-green, a snow and icy robe.
But earth glides onward in her course, and, turning as she flies,
Brings down more vertical thy rays and genial warmth supplies—
Returns again the carpet-green and smiling, flowery lawn,
More charming far in loveliness for having long been gone—
Returns again on rapid wings the warblers of the air,
To liv the summer season here beneath thy loving care.
And this great change from summer's heat to winter's piercing cold
Rests subject to thy radiant power and by thy heat controled;
And this great change from brilliant day to dark and silent night
Rests subject to thy power through the agency of light.
Then kindle up thy fires with the worlds that circle near;
Renew thy force of light and heat, though dark spots should appear;
Diffuse thy rays through solar space—like lightning let them fly
In darkness on electric wings forever through the sky.

INTELLECTUAL DEVELOPMENT.

COLOR.

We hav but little space to appropriate to this subject, and must use it at the best advantage. Color is but the effect produced upon the mind through the agency of the eye, from the different conditions of light, and is therefore immaterialistic, and only the product of the different degrees that material possesses of absorbing the light. Pure sunlight contains the qualities of developing seven primary or prismatic colors, and by the blending of these colors pure white light is the result. This is easily demonstrated by the use of the solar spectrum, showing that by the refraction of a prism the light is dispersed so as to create these seven colors on the screen, and these are displayed in their order in proportion to the degree of intensity the different refractiv powers of the prism renders to the dispersion of the light, giving the effects of violet, indigo blue, green, yellow, orange, and red. This phenomenon, you will notice, is accomplished without the addition of any substance whatever, demonstrating that pure white light possesses all the constituents from which all these colors originate.

Now, while these prismatic colors are made to remain on the screen, they are true colors as virtually as though painted there to remain a hundred years;

yet by your removing the prism, therewith you remove the action of the light creating the colors, and a flood of pure light will take their place.

The refractiv effect of the light by the use of the prism is such that by its dispersion it creates the various diverging rays by trillions of angles, which originates the colors; but by the use of another prism in addition to the former, set at the same angle, what the former prism does the latter undoes, leaving the light to shine through upon the screen without color, the same as if no prisms were there.

An interesting experiment is to nicely paint on the plane of a wheel, cut from thin wood or pasteboard, the seven prismatic colors in their order, so as to just go around; then place it in a good light, and hav it fixed so that you can revolve it very rapidly. By doing this you so blend the colors that your wheel or dial will present an appearance purely white. In this way you can dispose of the fixed colors for the time being, thereby showing that color is but a phantom, and only occasioned by the different degrees by which different substances absorb the light; therefore it is only by what the material renders to the eye that different shades are created.

Doubtless the reason why one substance presents a different appearance from another is the fact that the vibrations by which the light conveys the nature of the material to the eye are more or less intensified, accordingly as the tint or shade is represented, while the effect rendered to the mind is purely electric.

In utilizing this quality of nature to man's intellectuality, its application is most sublimely exhibited. It is consistent with nature to paint everything on the outside, so as to indicate its inner qualities, and she

always proves true to her text and all her optical illusions are merely the result of man's ignorance. Take from the world all these different shades and tints with which the extensiv varieties of animated creatures are adorned, the blushing loveliness by which the numerous vegetable productions are variegated, and the glittering luster by which the various minerals are made to sparkle in our eyes, it would rob from us one of our greatest primary sources of happiness. The grand earthly expanse, now variegated in prismatic beauty, would become barren of all loveliness, and our eyes would willingly close forever to such a scene of monotony. But behold, nature has arrayed all of her works with outward colors adapted to the inner qualities; therefore we need not be deceived as to the value or worthlessness of any creature, mineral, plant, fruit, or flower, even though there were nothing but the color to recommend it to us, were we sufficiently acquainted with the indications whereby nature presents them to our understanding.

How, from the brilliant sunlight clear, these magic tints arise ;
How in that which no color hath, such dazzling beauty lies.
So common, yet unto our view such grandeur is displayed,
We lose the loveliest features of these softest tints of shade.

Though but a phantom of the eye, conducted to the brain,
Yet through the mysteries of time this phantom will remain.
The colors by the prism shown most clearly on the wall
Are by refraction decomposed, and by dispersion fall.

But colors fixed in spot or place, on flower, leaf, or fruit,
Are there to speak their qualities, although in language mute ;
For nature represents within, by honest outward dress,
And tells more clearly to the eye than words can well express ;

And thus conveys unto the mind through hues, rich, dull, or bright,

The character as rendered by this agency of light.
This gracious gift from nature's hand appeals unto the eye;
The blessings which it daily yields no mortal need deny.
Behold the sky of melting blue, while earth is robed with green,
How never tiring to the view though nought displayed between.
The fragrant flowers in richest bloom, with petals all arrayed,
How kindly to the sight appeal in sympathetic aid!

The savage who dares upon them gaze, forsakes his knife and spear,
And loses half his vengeance while he dares to linger near.
Bright colors—charmers of the eye—enshrine the heart with love,
Show fairer prospects here below than fancied ones above.

OUTLINES AND CHARACTERISTICS.

Everything in nature is peculiarly identified by its shape, and is perceivable by the eye where the density meets the light; and the shape they assume is necessary to individualize one thing from another, and is a provision whereby each thing may be known by its form and the space that it occupies. To the common observer, this idea seems simple, but to the second strata of thought it is sublime. When we behold the world of promiscuous beings, creatures, and things—and yet no two, either in character or outlines, the same—we are led to meditate upon the extent of the different forms that nature assumes. Nature, as if struggling to fill the void, has given place to the various kinds of life represented by the extensiv species of animation and vegetation, and she has organized each precisely for the position it must fill; so that each, in the struggle for life, may seek its self-preservation without too much intrusion on the others, and at the same time hav the room economically occupied. Hence everything has a form of its own, by which it is identified to the understanding. This quality of shape, with the addition of color, strongly establishes the true character of each being, creature, or thing to the eye of intelligence, on the conditions that each object is formed to fill its place, and, in the sense that it is appropriated, is an exact fit. The condition upon which each

object assumes its shape makes it wholly passiv to the forces operating to form it. The stick of timber submitted to the turning-lathe may take the form of an ax-helve or a pudding-stick, as circumstances require; and so it is with everything inanimate formed by the hand of art; which shows that everything, for its shape, is subject to the will of its maker. Now the mechanisms of art are but a secondary production of nature, because nature originates all art; consequently all that is must be subject to some intelligence for its existence. But the human mind is wholly unable to appreciate attributes above itself, and it may be a heavy surge upon the imagination to consider all animated productions as passiv to the hand of nature as the various artificial appliances are to the hand of art. But as man is only a part of nature, both his physical and mental developments being purely the result of nature's operations, the very fact of his works indicating a design proves as conclusivly that all nature's works must indicate a design also.

The inorganic material which goes to form an organized creature acts under the influence of chemical affinity, unconscious of the use to which it is to be applied, while the creature subject to the formation is likewise unconscious as to what form it will assume, or in what sphere, and for what purpose it will act. But when the creature is developed, we find it admirably adapted in its organization to its spiritual inclinations, and precisely fitted for the conditions of its sphere.

In visiting the zoological gardens, it will be found that each animal of the whole collection shows in its very outlines its habits of life, and also shows how

far the range of its intellectual nature would necessarily hav to extend in order to sustain life in the sphere it must act in. In the works of man we often question why this or that portion of the mechanism was constructed, or to what use some certain machinery is to be applied; but this question seldom occurs in relation to the various physical parts possessed by the different birds, beasts, fishes, reptils, and insects; but it is obvious that they are not without their uses, and yet do still greater works than man in his mechanisms is able to accomplish.

Behold the universe, complete, in all that has been done!
See how the planets onward roll, as time doth onward run;
See, also, minor things of earth harmoniously combined,
Each acting in its proper sphere, exactly as designed.
How nature's mold for each is given, endowed with form and size,
To fit the nature of the life which inward she supplies;
So all upon the stage of life may swing and promenade,
And though in warfare deadly foes, in peace a social aid.
Look to the pleasures pastoral, where sheep and cattle graze,
How well their outlines represent their natures, use, and ways;
A total stranger to the herd, in wisdom could decide,
How people from such reservoirs with milk could be supplied;
And from the wool upon the flock would readily appear
How well the fibers would unite, and rigidly adhere.
The head with horns, hugely arrayed, most clearly represents
The means of warfare introduced in battling for defense.
The tails of cattle made to swing to brush the flies away,
Infers a common enemy each moment of the day;
And all the qualities possessed, displayed unto the eye,
Show well their adaptation to the spheres they occupy.

Now seek the poisonous serpent which in charming luster lies,
Acknowledge the mesmeric power that glitters in his eyes;
Or watch how he meanders in his oscillating trail,
Or like a broken branch suspends his body by the tail.

See with what awful power he draws the muscles of his frame,
To crush his food, the body of his unsuspicious game;
And watch his wide elastic throat capaciously expand,
While holding in dread agony some creature at command.
Now, satiate the hunger which the fast of months has made,
He basks in the warm sunshine, and dens in some rocky shade.
And with lethargic indolence, he drags his lazy length,
Half conscious of surrounding game, nor mindful of his strength;
But scarcely can I here describe all animals of earth,
And demonstrate their habits or the object of their birth;
Suffice, as has been stated, that each represents his sphere
By shape, power, and dimension, as will potently appear.

Ask why the bee can migrate so precisely in its course;
Ask why the eagle can command such great inflativ force.
Why wings the butterfly its way in such a zigzag flight,
Or why the owl perceives its prey more clearly in the night.
Seek thou the curlew's habits, with its long projecting bill;
Note how his fishing qualities surpass all human skill;
Observe, then, how all long-billed birds seek to obtain their food—
How natural they should be found near sea shore, lake, or mud.

Next view the hawk with crooked bill, strong legs, and savage claws,
His inclinations therefore must lead to carnivorous laws;
So as a rule all crooked bills are ravenous for prey,
This sign when in the human nose speaks strongly in that way.
The gentler birds, granivorous, more innocent appear;
Not formed for battle, shun the strife and flee away with fear.

The crane, well-formed for wading in some shallow pond or brook,
Shows better skill for angling than art with line and hook;
The very shape his legs assume, through water smoothly glide,
And scarcely is a ripple seen behind his cautious stride.

Next view the fowls aquatic, sporting on the glassy lake,
See them promenade in order, duck close following the drake;
Goose following her gander lord, which proudly takes the lead,

And favored all with nature's oars to render rapid speed.
The features most peculiar, though, to all the fowls that swim,
The foot so formed to paddle and the strong developed limb;
And feathers closely matted, that the body may keep dry,
And strong inflativ powers to assist them as they fly.
Observe their inclinations, and the broad, flat bills they wear,
You'll find are well adapted to secure their chosen fare.
But this theme ornithological I willingly will close;
To treat it in minutia needs a lengthy book of prose;
But each must do his thinking, while the outlines I will draw,
And you'll find in the minutia all things subject to the law.

Now turn to ichthyology, a moment to detain,
You with the fish inhabiting fresh lakes and briny main.
We'll first call to your notice why some are short, some long,
Some mild in their deportment, and some warlike, huge, and strong;
Some well adapted to make food for others to enjoy;
Some broad of mouth and armed with thorns, for others to destroy;
Some, like the turbot, broad and thin, to swim both high and low;
Some long and like an arrow, slim, like lightning made to go;
The sword-fish, with projecting jaw, must hav it well applied,
Attacks presumptuously the whale in belly or his side;
And sometimes in his hunger will attack a ship for prey,
And many hav been scuttled with his long sword in this way.
But not detaining to describe all species in my song,
Note how the faculties of each unto it doth belong;
Note how the inner feelings correspond with outward signs,
And how this principle is shown in creatures of all kinds.
But this is the first lesson I desire to impart;
The second is, What makes them so surpass the hand of art?
Is not there in material some guiding hand thus shown,
Or is there no intelligence except in man alone?
If this your firm decision, then please tell us if you can,
How came this wise intelligence so portioned out to man?

ORGANISMS AND FACULTIES.

It has been seen from the foregoing that each creature is organized to fill its sphere, and we now desire to show that the higher the order of animated existence the greater the necessary qualifications required to sustain its self-preservation. Now, as the scale of life ascends from the lowest orders of protoplasmic species of acephalous character, and develops through molluscan cephalopods and further upward, we discern that from the earliest appearance of cephalic or head development the condition of the creature proportionately assumes a more activ nature in order to obtain its subsistence. The acephalous species, possessing no power of assisting themselves to liv, necessarily are forced to exist through the action of chemical affinity, and by absorption the material is appropriated to the growth of their bodies. In this it would appear that nature was in small business were it not for the fact that every creature that ever existed originally has had to ascend this scale, and must even yet, from the time that fecundation takes place, ascend this scale before fetal development is perfected for birth. Consequently this is a primary work and chief in all of nature's requisitions in furnishing centralized identities to earth. Now, all the life quality in the universe is virtually the same, and what characterizes the creature of one species from the creature of another is the source from which the seed arises; for it is a law in nature that

the development must land in the sphere from which the seed sprung.

Now the lowest condition of animation was necessarily the first condition, since all animal life must hav originally arisen from nature's evolutions; and as we hav seen that nature provides for the life before it is able to help provide for itself, this must hav been the situation in their earliest originality. When there came a parent to foster the progeny, then nature resigned her office as nurse. But when she gave the species their introduction she rendered an impetus for perpetuation by providing each with the power of propagation, and we scarcely need add how inclined they all are to make use of those faculties possessed.

The life-principle exists in any piece of material substance, and under favorable circumstances the vitalizing force is quickened, and by chemical affinity a vital nucleus is produced and increases through a natural law of accumulation. Thus in the form of protozoans these life centers lie incorporated in substance silent and still, and passiv to outside action. At length the head begins to form, the sensation becomes more acute, and the creature, for it now begins to be one, feels the need of something that it is compelled to obtain by its own exertion. But nature is very kind, and she does not make requirements without furnishing the means of accomplishment. She therefore renders the prerequisits for ambulation. Action commences which stimulates physical force, creating a rapid development for still greater requisitions. The means of ambulation become perfected by their application and adapted to the character and inclinations of the animal. The organs of

vision, hearing, mastication, and digestion, also, become developed for service, and all of these additional advantages are associated with proportionately additional requirements. Therefore, the higher the sphere of life the higher the source from which it receives its subsistence, and comparativly the more difficult to obtain.

Now, all of these intellectual or mind qualities possessed by the various species of animation must, of necessity, be the outgrowth of their physical organizations, or otherwise the spiritual inclinations, must hav given form to their physical characters. But whichever way it may be, it does not change the fact of the mind exactly corresponding with the body. Then, this being the case, it evidently shows that the office of the mind has no necessary jurisdiction further than seeking protection and subsistence for the material requirements of the body and the common comforts that may attend it. In reasoning from the data of the human species we find this idea clearly exemplified; we seek the development of mind as a means of increasing power, for we learn that knowledge in many cases supplants physical force and accomplishes what blind strength could never achieve. Hence intellectual ability is the standard of human greatness, and also the mark of excellence whereby man predominates over the brute, and yet all of his extensiv intelligence centers wholly upon his material wants.

By the increase of population or the multiplication of the animal species it is evident that nature is not merely in pursuit of bodily development, for if this were the case, when maturity was once reached she would save the products of her labor; but, on the

contrary, they only barely arrive at that point when she sends these physical structures crumbling back to earth to become inorganic once more; yet there must be a definit object for which she is laboring, but it would be premature to state it here.

The tangible facts that our physical forms are transient, need no explanation. While new beings are daily arriving, others are continually passing away, and if this operation, together with the marks that each leaves behind, is the only grand end and aim, it would seem that nature has made a grand fizzle of it all.

Now, if it were the general order of things for the species to degenerate instead of improve, then the indications would point to an absolute extinction of all life in the form; but, on the contrary, the order is to fill the world to its fulness, and the extensiv gradations are given in order to afford greater latitude to each; thus onward and upward is the progress, and the end is not yet.

But each identical life is a world within itself, and the vicissitudes attending it attend all of the same order. Alike in material organization, each alike requires the same food, and is subject to the same conditions in getting it; and the annihilation of one individual creature, in the sense of life identity, is equivalent to the annihilation of all creatures and beings on the earth or in the universe, for the aggregate extends no further than individuality, and the joys and sorrows of one are equal to the joys and sorrows of all.

We would infer, in respect to each birth, that nature adds one and loses one by each death; but this cannot be so, for there are two sides to nature's

operations, and from our standpoint we can discern but one; therefore, the birth here that indicates a death on the other side, and the death that indicated a birth on the other side, is beyond the light of our common vision, and to some will seem like fishing in deep water for speculation; but we are reasoning from the data of what we know, and when we say that nature is no richer or poorer from a birth or a death, we merely would infer that she holds the principles in her own hands of both giving and taking away. But whence the source of what she gives, and what does she do with the vital principle that she takes away? We cannot understand the existence of anything without a cause, nor why nature should labor without an object; and we therefore conclude that everything taking place is based on design; hence the question arises as to what the design is? Man has a design in his works, and, as we hav said, he is but a portion of nature; so also has nature her designs, and she embodies therein the operations of man as well as all else.

Now, we notice that all creatures, including man, procreate through the impulse of amativ ardency; but none, through the influence of mechanical endowments, studies the result of their accomplishments. Still, nature takes her course, and, through natural law, the embyrotic seed is deposited, the fetal development takes place, and the infant creature is ushered to earth. Do you see that here are results beyond all finite power, and that they must be the work of natural laws? Then, in this, and all else, can you perceive any design?

It has been shown that life and feeling are necessary to the origin of an animated body; and if this

be true, which cannot be denied, then this same life and feeling must pervade in the nucleus of all physical organization, and therein represent all of the parts of the developed creature or being. For example, examin the animalcules of the masculin seminal fluid, and do not use a fifty-cent microscope for the purpose, but one displaying at least the broadest field for research that you can find. Arrange it to the light with the strictest exercise of ingenuity, and make your researches in a temperature of ninety degrees. Now see that you discriminate what you are looking for from the great ocean in which it floats. Now, agreeable to the theory which I hav presented, I want you to find in the form of spermatozoa, or life-germs, in this fluid representing the character of the creature or being from which it came. And do not stop at regarding it as a mere animalcule, in form of an eel shaped wiggler. Examin still more carefully, and through the transparent film that enwraps it, discern therein the full representation of the creature or man, as the case may be. You will also find that these life-germs violently manifest the action of the life that dwells within them, and are presented to view by millions, showing the infinit extent of this line of stock. Now these infinitesimals hav their birth, and do eat and develop to the extent of their sphere and die in the masculin body; but they are not produced by sexual procreation, but originate from atomic action. This atomic life is produced by the dual affinity of the pancreatic and biliary excretions, and the same are received by the lacteals and are quickened by the arterialization of oxygen gas, after which they are commissioned to fill the place of the dead material

which is being cast away as waste matter. I hav long felt confident that these animalcules actually exist in the serum, but in a different type of life than is discernible in the seminal fluid; however, with any means that I hav, I am unable to identify them in any portion of the common blood. Their non-appearance in the blood proper doubtless may be accounted for from the fact of their comparativly dormant state; but when they are issued from the masculin body through the genitiv organs, and are transported from their testicle reservoirs in the great flood of seminal fluid, another fluid proceeding from the *visiculœ seminales*, two glandular reservoirs located on the male bladder, and the peculiar affinity of these two fluids for each other is such that when they meet in the urethra, the animalcule becomes vivified, at which time action is strongly manifested, and in this condition it is transported, through the assistance of a liquid furnished by the feminin body to the ovary, where it is deposited for development. As our theme does not call us to giv a treatis on the subject of procreation, we therefore will not tarry here to investigate all of the chances that take place in the embryotic and fetal development, but will merely suggest how similar is the embryo of the human, in certain stages of its growth, to various other embryos in the lower creatures at various periods in the course of their progress. You may attach what meaning you will to this sublime fact, but to me the idea stands out in bold characters, *that all creatures are of one life, and the only difference between them is occasioned from the shape into which the parcel is molded*. Now when we look upon the giant proportions of the great ele-

phant, or the huge leviathan of the ocean, and consider that the germinating principle of their enormous bodies were once too small to be discernible by the unassisted eye, it proclaims to us how teetotally unable we are to fathom the operations of nature's most common works. Still a few facts we can learn to a demonstration, and among them we know that the creature livs, but we do not know at what point of time it first received its nucleus of identity. We know that the youngest child can realize its existence as clearly as the oldest man or those of any other age, for this the experience of life tells us, and the manifestations of the merest insect shows that it feels just as acutely its existence as man does his. And from this fact we must attach the same importance to the origin of one creature as to the origin of another. But though each creature feels its identity clearly enough, still not one of all the catalog could realize at just what point of time it commenced to liv; nor can it ever know at what point of time it will cease to liv, even were it consistent with nature that such a climax as the annihilation of the identity could ever occur. Consequently the soul principle can never lose anything of its own providing it should in what we call death literally cease to be; from the fact that it was not its own possessor. It was from natural principles that each was forced to liv in the present sphere; by natural law that each is sustained, and it is by natural law that each is forced to depart; and each animal or being is in the possessorship of a higher power, and none are the owners of themselvs, on the basis of the axiom that nothing can be its own maker.

In relation to the being, we would not say that he

first existed because he wanted to liv; because if he did not liv in some primary form, he necessarily was wholly passiv to the power that gave him origin. It is therefore evident that each creature of being has a mission to perform for nature or primary importance to that of its personal or selfish satisfaction, which it performs without knowledge of what the grand object may be. We fill in this sphere a very narrow circle, and a very transient span, but long enought to develop our natures to the conditions of this abode; but as we grow older and become stronger and wiser, our exactions upon the comforts that the world can afford, become proportionately enhanced, and a continuation of life and vigor, for an indefinit length of time, would eventually create a monotony intolerable to bear. Though nature has marked no limits to the sublime grandeur of her works, but the mind is constitutionally capable of fathoming only so far; after which all new ideas gained are at the expense of old ones lost. Consequently the field for thought in time would grow stale if the mind were compelled to pasture too long thereupon. Therefore a provision is made when the physical developments shall hav reached the climax of decrepitude, that the spirit may depart and no longer be burdened with its shackles. Then again, owing to the low and gross state of moral virtue, which doubtless is more refined at the present age than ever was before, we are subject to many ills in life, injuries, sorrows, and sickness, not all from our own evils, but many from the sins of those going before us, which a more perfect state of society, and a higher standard of moral excellence and physical perfection, might easily prevent. The punishment from the bad

uses that we make of our physical structures is sure to follow; and aches and pains and lives clipped in the bud is a just compensation therefor.

But this is a natural consequence from the age, and nature demands it to enhance her progress to intellectual development; and we shall hold man responsible no farther than he has the power to guard against the apparent evil; for when we are made to see that greater rewards, and a higher plain of happiness, attend the conduct of purity and wisdom, even the grossest will strive to reach so enviable a position. The force of habit makes us all slaves, either for exalted duty or for works of degradation, and our mental qualities develop proportionately to the channels in which our thoughts hav run. But the censure is not upon man, for if nature has so organized him as to be lured to feast on reptils, vermin, and carrion in preference to good bread and butter and beefsteak set before him, then, for the present, we must expect him to follow the bent of his mind. But all humanity is not so depraved, for we hav the specimens of various social grades, reaching all the way from Darwin's missing link up to the most refined state of moral purity; still the best, compared with what the best eventually ought, will and must be, border but closely on a state of barbarism. But for fear of the odium that this idea may cast, perhaps the following picture will be found appropriate:

THE POET'S DREAM.

Enwrapped in dream, he passed from earth, transported swift and
far,
Through ether space of frigid gloom, on heaven's celestial car,
And far upon the dazzling world of Venus was let down,

There to enjoy the bright scenes and richest luxuries of town.

He thought he was a delegate to represent this world,
And had by some mysterious power been to that planet hurled.
It seemed that a committee there received him as he came,
But were such grand and noble men, he fairly blushed with shame.

Before them, with embarrassment, he stood in awe and fear,
To stake the reputation of this low-developed sphere;
But they, in noble manhood, clasped him warmly by the hand,
And freely bade him welcome, and awaited his command.

They led him to a palace hall, most gorgeous, high, and wide,
Where seated to its distant length, and filled from side to side,
The people had assembled there in honor to his name,
Where he was to address them, in his dream of earthly fame.

He rose, and his unworthiness proceeded to allow,
When they all rose to honor him, and made a gracious bow,
Which stimulated confidence, and inspiration thrilled,
Awaking powers, unknown before, as though it had been willed.

And here it is, in substance, something like to what he spoke,
Though much of beauty has been lost to mind since he awoke:
I'm here a lonely pilgrim, to explore your radiant land,
Unworthy of the honors, though, my presence doth command;

Surrounded by such intellects as our world never knew,
It is with some embarrassment that I appear to you;
But you will make allowance for our undeveloped state,
Perhaps Time, in his magic course, may make us good and great.

But 'tis with shame that I confess how low and vile we are
Compared with your endowments, in this bright and blazing star;
But 'twill not do to mention here our grossest deeds of vice;
You'll think me an impostor, or grow giddy with surprise.

Our selfish qualities are worst, though grown from perfect seeds,
But their perversion leads from sin to foul and murderous deeds;
And create lying, thieving, lusting, fighting, near and far,
And often causes nations to indulge in bloody war.

It makes the orphan cry for bread, and chill for want of clothes,
And poverty and wretchedness still daily count their woes;

And often turns the beggar who comes groping blind and lame,
Out of the door of opulence, much to the miser's shame.

It makes the aged matron, with her haggard features spare,
And palsied hand, strive to obtain the means of scanty fare,
And sometimes then be beaten by some cruel, drunken lord,
Who robs from her gaunt stomach, the last morsel from the board

It fills with foul licentiousness the low dens of ill-fame,
And makes the maiden bear through life the burden of her shame
Creates a loathsome invalid of some devoted wife,
And fills the veins of infant blood with horrors during life.

Yea, more, I've seen some rosy youth, who might in life aspire,
Oft vanquished by a poisonous drink that sets his blood on fire,
And then in wild confusion rage, with demons in his soul,
And all from selfish appetite, that reason can't control.

Woe, woe, the dreadful evils that continually assail,
In vain the transient penalty of prison walls or jail,
Are able to confine the crimes that daily mar our peace,
And in the very face of it our evils still increase.

But 'tis beyond description, for no language can portray
The state of our depravity, to you so far away;
Although, between our world and yours, I'll draw a parallel,
The difference, tho', will be as broad as heaven is from hell.

The facial features of our people living on the earth,
Show not, like yours, the highest type of intellectual worth;
And in my want of knowledge, I now fail to understand
Why you so highly honor me, from such a savage land.

The men of honor in our world, in countenance look mean,
Their facial furrows show the marks of villainy between;
Their eyes display a glassy lust as vile as serpent's slime,
Their crumbling teeth convey the stench of nicotine and lime

Their barren capots, at the base, are circled with thin hair,
Although their brazen cheeks assume a proud and haughty air.
I see some hobbling on their way, assisted with their cane,
I hear some groaning day by day, with agony and pain;
And when I question who they are, and learn their titled name
I find that some who look the worst are of heroic fame.

Yet, to your great astonishment, they wallow in low vice,
And easily are bought and sold to such as pay their price.
And many in official chairs who guide the ship of state
Would sink the nation to become illustrious and great;

Too strong in selfish ardency, and weak in wisdom's lore,
To gain the sacred laurels that abide for evermore.
And striving to ascend so high in glory find too late
They're weighed in justice's balance to their everlasting fate.

Then, some who gain a worthy mark by some heroic deed,
On eulogy and flattery so sumptuously feed
That they're unmanned for future use; and in their silly face
Is shown how smart they think they are by their affected grace.

But quite too many selfish actions in our world appear
For time allowing me to tell or patience you to hear;
Nor till a higher social state was favored thus to see,
Were such depravity of earth so clearly known to me.

Here all I view are great and good; your noble faces shine,
Your eyes with inspiration glow with radiance divine.
Your cheeks all hav the rosy blush of health and joy serene,
And love and charity there dwell in glowing beauty seen.

Your heads, adorned with auburn locks that glisten in the light,
Display the gold and silver tints in luster clear and bright,
Which indicate fine quality of body, blood, and brain,
As well as moral excellence, that in your natures reign.

The cranial development would readily decide
An intellectual caliber, deep, clear, acute, and wide;
And frontal lobes of reason, how precisely correspond
With engineering faculties the bassilcr surround.

Your teeth in evenness are set, and white as ocean pearls,
And vie in rarest beauty with those rich and glowing curls;
And were your great longevity by their perfection told
A half a dozen centuries would scarcely make you old

But 'tis not your grand qualities I labor to extol,
But nature's high developments exemplified in all;
Nor do I envy such a state of high exalted worth,
But pray that such attainments we may sometimes reach on earth,

But will some leading character vouchsafe to me explain
Why you are able to control the weather, wind, and rain?
How you can grandly migrate so ethereal and high,
And regulate your ballast for the surface or the sky?

How you from water can produce the fuel for your fire,
And how with fire you reduce the rock to plastic wire?
How you produce a solid wall of marble, polished white,
Without the signs of seam to show were sections doth unite.

And tell me how you thus unite phosphorus with a gas,
To giv perpetual light by night within your walls of glass;
And how that steel you thus combine with copper for its aid,
To make a non-corrosiv knife with keenest cutting blade?

I learn that all electric lights long since were out of date,
But never were their brilliant jets known to us till of late;
I see you use the telegraph, but how do you convey
The sound so perfect without wire stretched along the way?

You also hav the railroads still in operation here,
But grander in comparison as Venus to our sphere;
Your roadbeds are of solid rock, your rails of polished steel,
And they that ride upon your trains no danger ever feel.

Your coaches glitter in the light drawn by electric force,
And run more rapid with no noise proceeding from their source;
Their inside finish, far more rich and gorgeous to behold,
All decked with drapery of silk and burnished with pure gold.

How oft the rails upon our roads are twisted, cracked, or bruised,
And recklessly sometimes are left, when dangerous to be used;
I'v heard of railroad accidents, where bridges breaking through,
Hav maimed the passengers for life, and some bade earth adieu.

A broken rail once caused a wreck when I was on the train;
The sight was sickening to behold, of wounded and the slain.
I noticed in the papers I was numbered with the list
Of those who met misfortunes—mine a dislocated wrist.

But scenes like these are common there, and 'tis not worth your time
To listen to disasters so unworthy of my rhyme;

So let me still interrogate more wonders that I see,
Or what at least are wonders to the ignorant like me.

How is it that your barges glide so swiftly in their course,
And with no manifested power propelled with lightning force?
Their motion seems so rapid that they skip instead of plow.
Their transits must be dangerous, you doubtless will allow.

How are you able to apply electric force and steam,
To meet the requisitions of all necessary team?
And make them thrice more ready than our horses to obey,
And travel three times further and much cheaper every day.

And tell how you through power of will are able to control
Material unorganized as though possessed of soul?
How can a life concentrate in a thing that does not liv,
And where the spirit to obey the orders that you giv?

Another thing astonishing I cannot understand,
How you make mountains shudder by the music of the band;
Or could, if you desired, lay your towers and buildings low
By sounding on their key-note when that key-note once you know.

But many are the questions that in weakness I might ask,
But how to comprehend them all is no such easy task;
Yet still I yearn for knowledge, and I long to hav you giv
My soul full to its limits while I ardently receive.

I hav some fortune on the earth which gladly I would pay
To see our world as far ahead as Venus is to-day;
But no such gross developments as ours can reach so far,
Though I will ne'er forget the love I bear the blazing star.

At this the poet meekly bowed, expecting soon to hear
The answers to his questions, when a hornet stung his ear;
Not long to make the transit, through the heavens did he roam,
But on the hornet's business end soon landed safely home.

However, there's a moral worth attention in this dream,
And has its application in connection with our theme—
It shows the onward progress that each planet doth attend,
And how the lower forms of life develop and ascend.

ORGANISMS AND FACULTIES.—CONTINUED.

In our visionary description of Venus, we hav inferred that her people were far in advance of those on earth in the arts and sciences, also in moral excellence, as well as physical perfection; but to hav any actual knowledge of such a fact, we would not claim, yet we hav our conjectures, and will take pleasure in presenting them for what they are worth.

In the first place, as we are unable to pursue successfully the intellectual faculties pertaining to the various grades of animated creatures, without considering the source from which they all sprung, we are compelled to make reference to the organisms represented in the great family of the solar system.

If the solar system be regarded as a family circle, then, reasoning from analogy, some of the children would naturally be older than others, strongly inferring that no two planets are of the same age. We hav, then, in the solar system, an association of primary planets, asteroids, or diminutiv planets, and also secondary satellite planets, all positioned at different distances from the sun or solar center, each continually performing revolutions around that great common center, and all together constituting one grand and magnificent wheel, with all parts running the same way, and all revolving on the same plain.

There hav been discovered, by astronomical observations, over two hundred members of this great

celestial family, and yet, in the vast expanse of our solar region, it is probable that there are thousands yet undiscovered, too diminutiv to be reached by the telescope.

Of the heavenly bodies known to the intelligence of man, these various members present very different aspects, showing that no two are alike in any peculiarity, and yet all are similar in their organizations. But while some approximate close to the solar center, some hold a medium line, and others are balanced in ethereal space, and floating onward in their orbits far to the outer limits.

Now, in studying the nature of these heavenly bodies, we discover that they are all definitly organized and systematized, and as we know of nothing in nature so constituted except that it had an origin and is of progressiv development, we shall believe, and, on the basis of analogy, feel confident that these celestial bodies are of actual birth, growth, and maturity, and also that their dissolution will eventually be certain. There seems to be a certain design displayed, by the existence of each individual thing, being, or creature, and when the climax of that design is reached, they all disappear. And, as it is so with all else, the planets are subject to the same conditions.

In considering the progressiv developments of the planets, there is one of which we know more of than any of the rest, and that is the one on which we liv; therefore, in studying the characters of the others, we will use earth as a data upon which to base our reasoning. The design of earth, in a measure, we can understand, and the other planets, being similar in organization, would infer a similar design; and

having all come out of the same great ocean of material, it would be only reasonable to suppose that they were all possessed of the same elemental properties, which inference, the use of the spectroscope substantiates; and, as we hav already stated, what earth will produce at a certain age, another planet will produce at a similar age of its development.

It is doubtless impossible to arrive, with any precision, at the age of any planet, but by certain conditions known to us, we can approximate very closely to their comparativ ages, thereby reaching almost to a degree of certainty their true conditions of development; however, there are many modifications to be considered, as well as numerical calculations to be made, in order to grasp such knowledge.

The principles by which the distances are computed, the volumes measured, the weights attained, the specific gravities sought, the axial rotation known, and the velocities of motion in their orbits obtained, are all easy to the practical astronomer, and from the data of these conditions we base our theory of progressiv development.

We notice that the nearer the planets are positioned to the sun, the greater is their specific gravity, and the slower their axial rotation, and the faster they move in their orbits. There is some deviation from this rule, but it is occasioned from certain modifications, clearly to be understood, but too intricate to describe to make practical here. For example, we will suppose a planet eleven millions of miles from the sun, to which we will apply the name of Anti-Mercury, and in proportion to his nearness to the sun we will consider him 2,000 miles in diameter, being very solidified, his internal heat having nearly sub-

sided. To his exceeding compactness, we will render a specific gravity of nine, and make his comparativ attractiv force with the sun to correspond, whereby, in order to sustain his equilibrium, he must run in his orbit at the velocity of about eighty miles per second; and in order to make his axial rotation correspond with such powerful gravitating force, it must take him at least forty hours to revolve on his axis.

Now we will come to the established fact of Mercury proper, positioned in his orbit thirty-six millions of miles from the sun, running at a velocity of thirty miles per second, and sustaining a specific gravity of seven, or seven times heavier per volume than water. His magnitude being much less than that of earth, being only about 3,000 miles in diameter, his axial rotation is about twenty-four hours and six minutes; but with a magnitude equal that of the earth, it would require more time to revolve on his axis.

Now Anti-Mercury we regard as being much older than Mercury proper, from the fact that his gravity is so much greater, which shows that he has had more time to mature. He has passed the ultimatum of his maturity, lost nearly all of his internal heat, and is now from surface heat in a gradual state of expansion.

Venus, our favorit planet, sixty-seven millions of miles from the sun, has a specific gravity of only about five, which indicates that she is younger than Mercury, having more internal heat and consequently less solidity. She is also still younger than the earth, as the specific gravity of earth is found to be nearly six. Venus being considerably nearer to the sun than the earth, she would naturally develop more

rapidly. Her closer proximity to the sun, and nearly equal magnitude with the earth, render a gravitating force of the sun upon her greater than upon the earth, thereby forcing her in her orbit twenty-one miles per second, while the earth has a velocity of only eighteen.

How a planet may be younger, and yet nearer to the sun, is for the reason that it commenced its formation nearer, while those that form nearer the outer limits hav a longer time to develop while approximating toward the center, and are comparativly larger when they reach their maturity.

In our calculating the age of planets, for convenience, we reckon as per specific gravity, each pound, as per volume of water, representing a million years. This givs the age of our imaginary planet, the one nearest to the sun, as nine millions of years, and Mercury seven millions, Venus five millions, earth six millions, Mars four millions; asteroids varying from a half to three millions; Jupiter one and a half million, Saturn about seven hundred and fifty thousand years, and Uranus and Neptune each about a million. Now, by reference to practical astronomy, it will be found that the lighter the planet per volume, the more rapidly it turns on its axis, and the slower it runs in its orbit. They are all governed in this on philosophical principles, and with such exactness as to allow risking our conclusions on the result of numerical calculations; then, on such conditions, with some of the planets nearer and some further from the sun than the earth, it gives us data whereby to calculate with a degree of correctness as to the period a planet has existed. Then, from the best calculations we can make, the planets farthest to

the outside in the system are in an undeveloped state, and for the present unable to sustain animal or vegetable life; therefore, Mars, earth, and Venus are probably the only heavenly bodies in the solar system that are inhabited, Mercury having passed his age of productivness.

There are many things in relation to the solar system that we would take pleasure in referring to, but as we hav already touched on planetary development, we will not weary the reader with a treatis on astronomy, further than the subject belongs to our theme.

There is one feature in relation to the planet Saturn which we will mention. The peculiarity of his rings has excited a considerable interest with astronomers, both ancient and modern. This planet is but a little more densified than a heavy compression of nebular fluid or vaporous accumulation, and the rings and satellites are of material in about the same condition. These rings are so set in the heavens as to hold the planet a certain number of degrees inclined to the plane of his orbit, and similar rings accompanied every planet at a certain stage of its formation. The larger the planet the larger the scale by which the rings will be represented. They are a great aid to facilitate the formation, as they collect the material from a greater expanse of the heavens, which eventually must all go to make up the main body of the planet, except what is necessary to form the satellites required during the developments of age. Such operations as these are controled by the intellectuality pervading the formation of these heavenly bodies.

Now, the masculin quality which fertilizes the celestial fields, furnishing the nucleus for the origin

of a planet, according to our theory, proceeds from the comets. Just what effect they giv to the ethereal gas in order to produce such a result, would be impossible to describe; but we know that the planets must hav their origin, and we also know that there must be a cause for it.

The nucleus of every organism must be an identity, and each identity, conscious of its existence, must hav had a nucleus with a sense of realization; but it is not from any sense of realization the nucleus may possess that the development of organization takes place, but from a principle acting wholly outside of it, and the force reflecting upon the germ of origin, for nothing can make itself, but some hidden force gives rise to all organic structures.

But "a little leaven leaveneth the whole lump," and the nucleus once vitalized assimilates congenial atoms to the building up through the entire development of structure. Yet all growth has its limits, the ultimatum of which depends upon the life-germ as well as the congenial conditions.

A planet, as much as any vitalized being, feels the importance of its existence from the time the life-germ is planted in the heavens, and, like any creature or man, realizes the same sense of identity from its earliest infancy to the ultimate extent of old age. Through all the various changes of evolution, no change in the realization of self can ever take place.

The fruit of no tree is yielded till the tree is hardened to a degree of maturity; neither does progeny come forth till puberty is reached, nor do worlds usher to life vegetation or animation until they are enabled to sustain them. Then all organic productions spontaneously arise, for the means are equal to

the end, and the forces are all in the earth, and air for all the growth that originates.

Then, returning to the earth, as a sample planet by which to represent a like object for which all other worlds were designed, when she furnishes the material to build up an organism, she likewise furnishes the principle with which to vitalize it. Having the material, she is able to supply it, but through what forces does she render it up? The material we can see, but that which actuates it lies forever hidden. The earth is the great fountain of both qualities, but inorganic material manifests no sense of realization. Then whence originates the organism? Where there is no vital germ, no embryo can germinate; therefore the life-germ must lie enwrapped in slumber, ready to be quickened by atomic affinity, as early as congenial conditions will permit its growth and development.

But the life principle and centralized identity, creating an animated body and an intellectual soul in a planet, is just as essential for its existence as the corresponding qualities are for the creature or man. An animated organism must essentially possess the material of which the structure is built, but there with it must possess, also, the life quality and a sense of its existence. Without them the body could not know whether it existed or not, for it would be as it is when the sense of feeling has left it. The elemental substances may appear to be all there for the animated structure, yet the organism be inanimate, because the vitalizing quality of soul is not there!

The earth is the great reservoir whence proceeds all physical growth and mental force upon it, and of course it will not be denied that she possesses within

her, in the aggregate, all the forces she has power to manifest through her vegetation and animation. And if this be conceded you mus grant to either earth or something higher, an intellectual quality, not only equal, but greater than all that is or can be manifested by her transient beings, for the means must be equal to the ends.

Now, we reason only from what we know, and we know that there is such a principle as identity and intellectuality, and we furthermore know that these principles could never be concentrated in the various organisms that manifest them, unless they came from somewhere. It is evident that small quantities of material, are taken from larger quantities, since a larger cannot proceed from a smaller, and it is just as evident that all the forces that are inherent with material are subject to the same law. There is sufficient life force in a world to vitalize all vegetation and animation, besides the unknown quantity left, and it cannot be denied that it is of the same kind that she holds within her, that she evolves into all beings and creatures upon her. Now, the greater the amount of material, the greater the weight; so, also, the greater the amount of concentrated life force, the greater the capacity for intelligence. Not to be understood that an elephant should be more intellectual than a man, for as much, and more, depends on the form of organization, its quality as well as quantity, and the sphere that the creature or being must sustain.

But each creature is alike wise for the sphere it fills, for knowledge is only given as a means of self-preservation, and beyond that, from the realm of our understanding, it is never needed. The creature only

struggles to obtain the means of physical support, and all his adjunctiv faculties center wholly upon that primary object; but when the bodily structure is dead, no intelligence is further needed to render it support, for consciousness is then gone from it, and the object of holding "soul and body" together is then forever lost. However, in this, we must not lose sight of the fact that there are three distinct conditions of life or spheres, that each identity must pass before the developments reach their destination in this life. And these we know of, if scientific facts and logical reasoning are worthy of being a guide.

We hav already made reference to the life-germ as a masculin principle, preceding the embryotic position of development in the womb, and that both of these conditions precede the life we are now living becomes an easy fact to comprehend. In considering the transmission of the life-germ in the seminal fluid to the ovary, and through the embryotic stage of development, it is evident that the animalcule dies to its former position of life, undergoes a metamorphosis, and then develops and dies to its embryotic position, at which time the being is ushered into this life. That the same identity existed in the seminal fluid which was developed in the womb and trans mitted to this sphere, is not a question of doubt with us, and that the same will be perpetuated throughout the same circle to a new life on earth, on proportionately a higher plane, is the theory that we intend to sustain, both by analogy and scientific principles.

The metamorphosis of the caterpillar into the chrysalis, and then its development into the butterfly, is only analogous to the above representation; and

throughout these changes it is obvious that the same sense of realization prevails, in one as in another, for how or why should it or could it change? And even though the material of the entire tenement undergoes an entire transformation, still the new body tenaciously holds the spirit of the old one. The progress is upward, but when the gay butterfly falls in death to earth, its animation is no longer manifested, though to claim that there is no spiritual identity existent, because we cannot see it, is very bad logic, for that is a principle that never was visible, and yet it is a principle which is most important and precious of all, and we will leave the testimony of each to decide. We are unable to see the fluid in which we liv, though oxygen and nitrogen are grossly combined with various other substances which commingle to form it, yet cities will burn down, and the material will ascend, and oceans of vapor will rise; and while in its comparativ density we ambulate, still we behold it not, for the oxygen has crystallized it all, and rendered it invisible to the eye. How then shall we discern the essence of the soul, which is a thousand times more ethereal?

Yet the perpetuation of the soul in man is not all to be considered The merest insect may, with the same propriety, assert its claim, for nature acts with impartiality, and were it not for the spiritual perpetuation of the inferior orders their developments could never have ascended to the superior. Like begets like, and the animal spirit will only fit the animal body, and that of its own species; but in ascending the scale the superior survive, and that is where the missing link is to be found, connecting the higher orders of animals with the lower orders of

humanity. We therefore do not see from our standpoint the amalgamations which ascend the scale and approximate toward intellectual perfection; but one thing we do know, that if all the species are of spontaneous production, originally, then the highest on earth must hav been the outgrowth of the lowest, for the best geological researches hav found no traces of original productions except those of the lowest orders of life. Now it is self-evident that there was some way by which man has got here, but from our theory it is no more mysterious how he came to exist than how a bug or fly; for by the existence of the low orders, and from an actual knowledge of their progressiv development, the existence of the higher is a necessary consequence. The first man of ancient tradition, mechanically made of clay, with the breath of life literally breathed into his nostrils, whereby he became a living soul, we reverence for his old age, and would glory in having had so holy an ancestry. But the light of scientific investigation has rather discountenanced the old antediluvian, while we are compelled to trace our ancestral lineage back to the baboon, ape, and lizard, and frankly acknowledge our low origin.

As we hav ascended from that low sphere, our mental faculties hav called for physical faculties to correspond, although in all of the spheres that we hav occupied the spiritual identity has been the same, and for ages to come it will remain the same. The number of lives we hav lived in all is in reality but one, and we are still living that same life, but the number of forms and spheres we hav occupied are many, and the end is not yet. The realization of our being continues right on, and although we always

know when our spirit is going to depart from the tenement, yet no being or creature ever knew when they died; and when transmitted to the next body or sphere, none will ever realize that they hav ever lived before. It may seem like poor satisfaction to know this, when we consider the "the sacred ties that bind our hearts in kindred love," but we hav a sample life on earth, and it is obvious that we cannot look back with remembrance to any other that went before it, yet the satisfaction of kindred friends is sufficient while we are permitted to enjoy their society, and we found them all when we arrived here, and in departing to the next sphere we shall be in like manner favored. As we take on new life, all reminiscences of the old is forever lost in oblivion. Our memory, even in this world, is often but a poor reliance, being frequently unable to remember our dreams, after we hav fully awakened; then why shall we expect to be able to carry a remembrance of this world to the next? A moment's reflection will decide to any reasoning mind the inconsistency of the events of this sphere being associated in memory wish those of any other. Had such been the order of nature, then there need have been but one continued sphere, and such lasting monotony would hav created a disgust for life, rather than a love for it. And again, this sphere is designed to be enjoyed while we are in it, and when we reach another that will doubtless be the same. The Lord's docket will never be read of our present deportment, and no criminal cases here will be tried in the next world. But the next life, as we will call it, is to be on earth, and not in the clouds or in imaginary space, and let us see why!

First, all of our happiness on earth tends wholly to our material wants; and although we may imagin "celestial joys of heavenly love," we will be enjoying a real scenery like "sweet fields arrayed in living green, and rivers of delight," and fancy that "the gates are richly set with pearls, the streets are lined with gold." Now, if such are the conditions, we shall require some place that will afford a good solid footing, and since nature has been laboring for millions of years to make worlds for all creatures and beings to enjoy, it is doubtful if any can conjure up a better institution for the purpose. But the good, substantial qualities of *terra firma* do not seem to suit the fancies of all; some want to go fast and fly, and some want a mansion in the sky, and some are willing everlastingly to die.

But the actual facts are governed by natural law, and neither belief, hope, nor prayer is going to modify or change the nature of the future state, for it is under a jurisdiction that is unchangable. All the world might join in concert with unison of feeling in prayer, for nature to veto one of her laws, yet inexorably she would fulfill them all just the same. Not the prayer of a multitude could remove a grain of mustard seed, without the manifestation of physical action.

But the higher the intellectual standard in this sphere, the higher will be the next, for raising the standard is the only design shown by nature's evolution; so to assist nature by becoming exalted in intellectual and moral excellence is our highest object of life, and renders the greatest happiness to us while here, as well as fits us for proportionately a higher plane in the next sphere. This fact is exemplified in

the progeny of well-tutored animals, as shown by their docility, and it is an established fact that perfect parents beget perfect children, both physically and intellectually.

In the production of the new body, it is fashioned from the pattern and molded to the conditions, therefore every seed must produce after its kind, which shall indicate that the intellectual qualities are as strongly stamped as the physical. Hence human spirit will only fit human body; horse spirit, horse body; and bird spirit, bird body, and so with all.

The habits of a preceding sphere are transmitted to this, giving an impetus for good or evil as the case may be; but the instinctiv natures more clearly represent this fact than the human, whose intelligence is more a matter of culture. The bird builds its nest with the same perfection for the first time that it ever does, for its soul has been the same kind of a bird form perhaps a hundred times before, and that instinctiv quality is carried forward from generation to generation.

There is a peculiar feature possessed by every creature in existence, which creates an inclination in each to reach a higher degree of power. This is what givs that feeling of ectasy in the animal propensity when the victorious one vanquishes his foe. This ardent desire to be strong excites a corresponding degree of will force, aiding both to enhance the assurance as well as to stimulate the physical strength. Such a continual pressure of feeling in all the animal species in nature, prevailing from generation to generation, necessarily urges each onward and upward to a higher standard of life. This aspiring faculty is never allayed in any sphere of

life. And where the desire is lost to wield by phys ical force, the exhalted ambition of intellectual superiority commences. When all the animation of earth was in brute form, which preceded the human origin, then no influence of culture could hav been exercised of social bearing, which would rapidly stimulate what we regard as exalted qualities. But now that animation has ascended to the scale of humanity, the influence of man has a bearing on the mental proclivities of nearly every animal. The horse in his wild state was not so well adapted for physical labor as he now is, since being domesticated and applied to use by the hand of man. It has made him assume a different shape, as well as given him a look of docility which originally he did not wear, and all this change has been occasioned by his being associated with a higher order of intelligence and subservient to a superior will. Therefore, the horse, associated with man, imbibes a certain amount of man's nature; and man in return receives a certain amount of horse nature. But while the horse is being tortured, and brought in that way from his wild, ungoverned condition, up to the docil and obedient servant of man, no characteristics of human excellence are lost in the operation of taming, but, on the contrary, further qualifications of human devices are introduced.

So it is with all animals made subservient to the will of man. And it will not be denied that through the influence of domestication each animal is made superior to what it was in its wild state. It will therefore be seen that each creature, as soon as ushered to birth, is constantly urged onward and upward to a higher sphere. Even the necessary

conditions that must attend life are in a measure a continual course of torture, and the greater the agitation the faster the being or creature thinks. They that are nursed in indolence are the least conscious of the things around them, while those who are continually spurred to aggravation, maddened to contempt, harrassed to petulancy, and grieved to discouragement, are those which by nature are chastened whereby that they may be exalted. Then, from the foregoing we infer that to liv is necessarily a condition to improve, and that nature's great design is to work as much intelligence out of the material in the aggregate into centralized identities as is in her power.

We hav already stated that human spirit will only fit human body, and animal spirit animal body, but the animal that approximates nearest to human, and from long associations has imbibed human characteristics, in death its spirit of identity may become the vitalizing principle of a human tenement. The question has often arisen, Why is it that certain persons hav a look that so reminds us of some kind of an animal? In our acquaintance we know of a person who has received the appellation of "Horse John," from the peculiar resemblance his facial features bear to those of a horse. There are many cases that we might recite of a similar kind, and, although this inference might seem far-fetched, yet by an extensiv study of physiognomy we shall find that there is scarcely a countenance we meet but what represents, in some feature, a resemblance of a like feature in some certain animal. It is, also, frequently the case that the progeny of a succeeding generation strongly resembles in character and ap-

pearance those of a person far back in the ancestral lineage; and the wild and fiery colt which is sometimes the offspring of gentleness and docility in both sire and dame is not without a meaning.

In conversation with some parties, of professional merit, on this subject, they seemed tenacious to sustain the idea that the mind or sense of realization was virtually equivalent to the intellectuality, but we regard it differently. We acknowledge it as the source of all intelligence incorporated in the body, but not the intelligence itself; and we will try and show you why.

We hav already said that centralized intellectuality is only needed as a means whereby to sustain the body, and through this instrumentality we seek our support. Now, if we knew no more than an infant knows, it is evident that somebody would hav to look to our wants, or otherwise we should fail to get a living. But because a child is weak in knowledge, that does not go to show that it is weak in feeling, On the contrary, we know that it realizes its existence just as acutely as a grown person does. We hav our own remembrance to substantiate this fact; but we hav no remembrance when we felt less clearly our existence because of our early age The feelings of a child are even more acute than those of an adult, for the reason of its physical system being more sensitiv, and less accustomed to pains from injuries and sickness. Consequently our consciousness of life is not a principle subject to development, while on the contrary our knowledge is wholly so.

But intellectual development renders an impetus reaching to the next sphere, impressing the mental nucleus with an innate power proportionate to the

germ of life and favorable conditions of parentage. From this fact we find that some children seem to possess an instinctiv knowledge of almost everything that is to be learned; receiving ideas from intuition, as though they were facts previously known in the sphere from which they departed.

There are many points in relation to the foregoing that we may hav occasion to refer to before we reach the close of this volume, but we shall endeavor to keep on a parallel with scientific facts, so that no lover of science who reads will need be disgusted with theories based on a false hypothesis, or without plausible reasons to defend them.

SUMMARY TO PLANETARY FORMATION.

Through the eras of time, o'er the fields never ending,
We gaze and we reason from what we behold,
Through all past evolutions, to the present still blending,
We read the grand order by nature controled.

From ethereal gases spread wide through heaven,
By the sun's radiation of forces unfurled,
Spring forth the young centers, with the spirits that leaven
The ether, creating the growth of each world.

On nature's grand basis, they form in proportion
To the volume of matter each center controls,
And wax in the course of their endless excursion,
By the force of attraction, and onward each rolls.

Thus fed and sustained by the ether each enters,
And governed by laws universal outside,
They form and develop while revolving their centers,
And balanced divinely, they never collide.

And therefore they run in harmonious order,
And form a grand system of members sublime;
Each filling his mission, from center to border,
Appointed to space and allotted to time.

All conscious of life from their early existence,
Yielding physical bodies for spiritual force;
And bequeathing life forces against all resistance,
To the creatures they bear, as they fly on their course.

SUMMARY TO SPIRITUAL IDENTITIES.

From the action of matter, through the forces pervading,
All the species of earth did spontaneously rise·
In atomic minuteness dwells the quality aiding,
And inherently hidden the central seed lies.

The substance so quickened, doth vibrate with action,
And trembles at even the slightest touch made;
And the vitalized center, by magnetic attraction,
Applies all congenial material to aid.

The form, embryotic, in innocence starting,
Grows greater in volume and stronger in force;
While the sun is emitting his light and imparting
His warmth to engender the life-giving source.

Thus the atoms by millions in order uniting,
Organize the molecules which to the life join;
While the lively sensation electricity thrilling,
Creates the existence to fill the design

In relation to the origin of organisms there are many important features to be considered. Having heretofore shown that the basis of all nature's operations is the material she employs in her never-ending evolutions, and also having seen that a universe of material would be useless without the pervading forces which actuate it, we will now attempt to show the impossibility of a universe of life in the aggregate, and a universe of vitalized atoms, individually existing, without the necessary consequence of giving rise to various orders of animated organisms. Reasoning from the standpoint from which we look, the very fact that animal life now exists, and that it once did not, is all we would require to substantiate the

theory of spontaneous production; but positiv facts, almost reaching to axioms, are often supplanted by mystified faiths, and it requires a great exertion to make some minds see straight. I am confident that many more writers on natural history would freely accept these premises were it not for a lingering suspicion that it conflicted with ancient traditionary tales of the creation. Still a few suggestions will not be out of place for the readers in general.

The action prevailing in any organized physical system we attribute to an inherent life-principle incorporated therein, and it is not difficult to understand that the material in the aggregate must possess corresponding actuating qualities, from which great fountain the organism receives its principle of life force. If every atom in the universe possesses its due share of life force, then the incorporation of atoms, in whatsoever form they may be, must not only proportionately multiply the inherent atomic forces, but enhance by the affinities and create a magnetic center, which incorporates all the power in one. Were not this a true theory in relation to the action of matter, then we must frankly own that it is beyond our power to understand how any evolutions or action of matter could ever take place. Otherwise all nature would be dead.

The atoms of each of the sixty-four recognized elemental substances differ in form, size, and electric or magnetic power, and the latent force of any is scarcely manifested within itself, while from the effects of elemental combination great results take place. No action of growth can ever take place where but one element is employed, and not even the accumulation of one element can occur without

the forces of other material acting with or upon it. Nature has use for them all, and although the presence of but few of the simples are discernible in most of the things presented to our notice, yet doubtless the action of all are in some way brought to bear in all the operations of nature. All were originally common to the ethereal gases, and no element can come in contact with oxygen and nitrogen but what in some degree will either unite or mingle with them. Any substance may be reduced to a condition of ether and diffused through the air, and not one of the catalog of elements but what either in a state of simple or in combination with others may be made combustible. Gold and platinum, two of the heaviest metals known, and noted for their fineness of texture and non-corroding qualities, both are subject to certain dissolvent effects, and in a condition of fine dust either will scintillate and be reduced to gaseous ether by the effects of heat. Mercury, another heavy element, under certain conditions becomes very volatil, acting when rarely diffused through the atmosphere as an admirable purifier, or carrying in its more dense vapor a corroding gas of deadly poison. The diamond may be reduced to carbonic acid gas, and be made to flash with a flame and rise to unite with the oxygen and nitrogen composing the atmosphere. All of the various elements were once subject to ether space, and like ones are now indiscriminately diffused throughout the celestial regions of the universe, and, in the formation of planets, are in their proper proportions woven into the organization. These primary elements being absolutely essential to compose the earth, in order to accomplish the design for which she was organized,

doubtless the same elements, and in about the same proportions, unite to form the constituents of any and every planet of the universe. However, this suggestion might appear to be based on a very doubtful hypothesis, but on the conditions that similar agencies produce similar results, we are inclined to think that the premises will plausibly sustain us.

To a casual observer these elemental substances are often found very much out of place, but the various complex ways in which they combine, in order that two or more simples may produce such numerous kinds of commodities, are even more wonderful to the well-skilled chemist than to the unsophisticated. For example, if we were going to manufacture sugar, we would hardly expect to reduce it from such a commodity as charcoal, and yet the only elements to be found in the one are identical with the other, only in different proportions; and at first it seemed like the actions of a crazy person to attempt such an enterprise as producing the precious diamond by a concentration of the most refined particles of carbon extracted from charcoal. But the chemist was in earnest and meant business, and accomplished his object, and when the operation becomes thoroughly facilitated it will be lucrativ till a decline of price takes place in the diamond trade.

A thousand similar examples might be presented to show the widely different products, resulting from the same simple elements, when differently combined. But we must pass on.

The stimulated action that it renders to the simple elements by uniting them to form certain compositions is wonderful to notice. Two or three of the most harmless ones, when separate, may become the

most dangerous to handle when in certain proportions compounded; while on the other hand, two elements which exist with a natural dual affinity for each other, as oxygen and nitrogen or oxygen and hydrogen, are innocent when combined, generating life-force to all that inhale or imbibe them, but become deadly in their effects when separated.

From the foregoing it will be seen how admirably associated are these elements, to accomplish the object for which they exist. Although we hav already stated that there are but few of these simples that enter extensivly into the organic structure of either animal or vegetable life; yet as the earth has use for them all, as we hav already implied, they doubtless all hav their effects in generating life force, and sustaining the electricity necessary to giv action and sensation to all living creatures. It might seem like fine figuring or a a far-fetched idea to assert that total absence of any one of these primary elements would in time render all life on the earth extinct; and what might seem still more vague, those very ones apparently least essential, if their necessities were clearly understood, would be found quite as important as any others. Suffice it to say that they are all in some way essential to the production and preservation of animated existence, or assist in the transmutation of identities from sphere to sphere.

We must here remark that it cannot too imperativly render our regard to the works of nature for so divinely administering to the wants of all living and conscious creatures and beings, after having produced them by the generativ effects of her quickened material; and when we observe the perfection in which all of these evolutions are conducted, we are assured

with implicit reliance that in none of her works has she given either too little or too much, and that if there was either a deficiency or overplus in any respect, it might doubtless in some way create direful results. But how limited, comparativly, is the human understanding! Not the plainest thing to be deciphered can we trace to its ultimate source, nor scarcely conjecture the necessity of the inferior creatures ever having existed in myriads, in order that man should hav had his origin; but when the door is opened to the mind which clearly leads to this avenue of thought, we are made to feel the potency of the truth.

It is wonderful to contemplate the action of the material elements to preserve even the egg of the infinitesimal creature, or how preciously in the hands of nature, the youngling, too small for the natural eye to discern, is carefully protected, fostered, and maintained. For example, a certain inferior fly deposits an egg too small to be seen beneath the infant leaf of the black oak, which is on the feathery side of the leaf, after which she emits a fluid of a gluey nature in order to hold the egg securely to the leaf, and then delivers her work into the care of nature. The charge is freely accepted, and preparations duly made for its safety. The leaf does not die, but in its growth it gradually incloses and folds around the egg in the form of a ball, until it is impossible to see where the edges of the leaf unite. At the first appearance these little balls are very minute, not larger than a pin-head; but they increase by growth the same as a leaf, until they sometimes reach the size of a small apple. During this time the insect inclosed is undergoing certain developments which will

eventually giv it birth to the outside world. At first it is fastened to the center by a kind of core which appears to hav been furnished by a luxuriant growth of feathery appearance, like to what is common to the growth of the under side of the leaf, but made more profuse by its being less exposed and stimulated by the presence of the insect. In my early youth I relished the taste of these "oak apples," for they were green and tender, and the shells were but a little thicker than the leaves of the tree.

At length a brother older created in me a great disgust for them by showing me that it was no apple, but merely the house of a worm which lived in the center. I wondered what business the little creature had in there, and sought to find one that was not thus inhabited. My search was fruitless, and I came to the conclusion that the growth was one expressly for the protection of the insect, instead of being the natural fruit of the tree. This was one of my first lessons in natural history, and I must own that its effects were so impressiv and deeply sublime that it not only left a lasting imprint upon my memory, but stimulated the desire to investigate the subject still further. As we now survey the habits of the myriads of zoophytic life, and watch the ovipositors in their precaution to secure their eggs in a position for a safe incubation, or trace the course of development from the egg to the larvæ, and the larvæ to the beetle, or to the chrysalis, and thence to the butterfly or lepidopterous order, or stop a moment to contemplate the complicated machinery of the saw-fly, or investigate the history of the numerous sea-urchins, pausing carefully to watch the transmigratory life of the cirriped to its development into

the barnacle, and thousands of as interesting phenomena, many of which must from their minuteness be displayed by the use of the microscope, which now continue to throng our path, we are led to exclaim that the infinitesimal lives in the minutiæ are infinit life in the aggregate.

There are myriads of these zoophytes governed by similar habits, and some of which, it is almost unnecessary to add, in the end, become entirely different in nature and habit from the original ancestry. This, however, is not exactly in harmony with the idea of every creature bringing forth after its kind, but is one of the exceptions to that rule. Who studies the true history of the cirriped, or barnacle, and fully comprehends it, will then no longer wonder how a bud from a plant can grow into an insect when dropped into the sea, or how that hairs placed in a rain-trough can become creatures of sufficient life to migrate through the water, or how that thousands of equally wonderful phenomena can constantly occur, is beyond the range of our observation.

We would here state that we do not wish to evade the fact by any doubtful feeling of discretion; that we most decidedly hold to the theory of original spontaneous production; nor do we even stop there. The same laws that once would originate the organisms of animation will, under favorable circumstances, do so now; and that same onward and upward progress. ever since the earth has been in a condition to sustain animal life, has been going on, and still continues; and yet the world, till lately, has never been able to look the fact squarely in the face. Traditionary mysticism has doubtless been a

great obstacle to the progression of science, and often, when leading minds hav aimed at truth, public favor has so juggled the senses the shot has gone wide from the target.

ASCENSION OF ORGANIC LIFE.

The spirit of nature permeating all matter,
Doth quicken each atom with separate life;
Which forever doth mingle through earth air and water,
In harmonions action or contending strife.

No particle easy, each ever is moving,,
And always pursuing some object for rest;
Some joining, some pulling, some clashing and shoving,
While some to a nucleus center are pressed.

Some depart with repulsion, some join and commingle,
All acting as lively as billions of bees;
Too minute for conception, each atom when single,
But united creating the land and the seas.

Unbounded that wisdom—whatever you call it—
The power that reigns universal—divine;
Controling each atom in whatever befall it,
And applying them all in majestic design.

All the principles extant for orders and classes,
Were eternally stamped through all cycles unknown;
And made to prevail where development passes
The era for worlds to bear fruit of their own.

Forced to rise; sprung to life by material action,
Ten thousand low creatures the seas could maintain;
Comprising those kinds, putting forth no exaction,
Against the foul gases which around them did reign.

The world rolling onward, in age still progressing,
During each passing era, develops still more;
And heaves to her surface her bounties, expressing
The wealth of her bosom still treasured in store.

As the poisonous gases into densities harden,
The creatures more activ awaken to light;
Still no mortal can liv in the "Paradise Garden,"
Till, cycles uncounted, the earth wheels in flight.

And ages roll on while the surface formation,
Successivly changes from water to land;
Supplying new strata in the course of creation,
Renewing her products with species more grand.

Of eras full fifty or more we discover,
From the Azoac time to the Mammalian age;
And a million of years must hav slowly passed over;
Till man from the mollusk arose to the stage.

Let us delve Cenozoic, and the fossils examin,
For time has recorded by traces there shown,
How the gradual steps from low orders—Mammalian—
Hav reached to this glory we boast as our own.

Next explore Mesozoic, the period Reptilian,
Seek there for the records of life in that day:
Seek how the ascension points to the Mammalian,
While onward and upward doth progress make way.

Next downward still, go to the age Paleozoic,
And read what was written indelibly there;
How the strata record in their various divisions,
Higher orders of life to each stratum next higher.

How the creatures aquatic link with semi-aquatic,
And develop in water to inhabit the land,
Which connect the Reptilian with species Devonian,
For onward and upward was then the command.

Still another long stride through the strata Silurian,
To those the most ancient that man has explored;
And though buried a million of years in oblivion,
Still the Molluscan types doth their records afford.

All these creatures of life, but a few, are still extant,
Showing clearly to-day how the lineage ran;
And no link in the chain is yet disunited,
From the lowest of orders up to reasoning man.

It would beggar all reason, that man's introduction,
Was suddenly wrought through no series of life;
Such a sudden appearance would soon meet destruction,
Unable to combat such violent strife.

How that man, undeveloped to worldly conditions,
Provided with neither his raiment nor food;
Possessing no knowledge to sustain his position,
Could liv, do pray tell us, or inform why he should.

The sphere unadapted for such initiation,
Unhardened to climate, uncultured to act;
Man would need to depend on the ravens for ration,
And fig-trees for raiment, if such were the fact.

But the question is settled, accept or reject it,
For science has fathomed its depth and its hight;
But some will still hold to old faith—we expect it—
Instead of embracing the glory of light.

CORRESPONDING MENTAL PROCLIVITIES.

Man possesses all the propensities to a certain degree common to animals, but animals are devoid of the higher faculties possessed by man. The gradations are physically represented from the lowest orders without a link broken, all the way to the human, and the shades of difference are very nicely blended, reaching to all kinds and classes, and yet gradually continuing the onward and upward march. That the mental proclivities should be as nicely blended as the physical is not inconsistent with our theory, neither is it with fact. It will not be overlooked that the dissimilarity of the various animal organizations is mostly represented by the shapes they assume, while the elemental substances composing their different bodies are nearly the same

throughout the whole catalog of species, especially so among the mammalian types. All of the latter bear a strong semblance in blood, bone, and muscle, and the same principle is shown in the ligament attachments, and frame articulation, also in the veinous and arterial, or rather the circulatory, system; likewise in the systems of nerves in their ramifications. Even in the constitution of man nature has given no better material for his organization than for the organization of the lower mammalian types, and no partiality has been shown except in the form of the make-up, and that his more extensiv development earnestly demanded. If the texture of the human system in one sense be finer than that of the animal, so as to sustain more electric force, making a comparativly strongly electric center for the body, it is only what is justly due, from the fact of having passed through a more extended series of lives.

It is obvious to all that some animals are much more intelligent, and approximate more in shape toward man, than others, enough so that where the lowest order of the human connects with the highest of the orang-outang and ape species, the dissimilarity is not greater than the difference between the lowest and the highest of the human species. That so great a change may be wrought as making the step of ascension at the period when transmutation takes place is not at all miraculous, for beneath our eyes we witness greater transmutations which scarcely occasion a comment. Even the egg under a state of incubation turning to a chicken is a far greater change, and you apply this principle to every creature coming into life while in embryotic state, and it is far greater and more wonderful than the one to which we hav cited your atten-

tion. The same life principle that exists in the frog doubtless existed in the tadpole, yet the spirit of the tadpole has developed into a new body—that of the frog, which is of entirely different habits. The many such evidences that nature has placed before us it would require much time and space to mention, but the mind of a thinking person once directed to this fact, it will discover more examples in proof of our statement than we hav time or room to offer.

There are but few persons but what believe in the perpetuation of the soul beyond this sphere, but the nature of their future states, for each person seems to hav an idea of his own, is almost ludicrous to contemplate, and when the inconsistencies of their various views are portrayed, some feel almost angry at being robbed of so pleasant a delusion; but the facts that nature's evidences thoroughly demonstrate are so close that they are continually overlooked, and only with the utmost difficulty can be pointed out. It reminds of the picture puzzle, representing the head and face of a person, but executed so in the style of a wild and rocky landscape that it was almost impossible to point out the design to a stranger to the picture, but when once seen it appeared astonishing why everybody else could not also see it.

There is a peculiar sensation that everything feels that has consciousness, occasioned from the peculiar effect of the atmospheric or fluid pressure bearing constantly upon the outer surface af the body, and the corresponding pressure in the body bearing constantly outward. The surface pressure of the atmosphere on a man of medium stature equals about thirty thousand pounds, and the pressure when in water is much greater than that of the air. This creates a

normal effect upon every living creature, making each to clearly realize the space it occupies, and answers in a degree as a guard and protector, and givs each to understand the nature of its existence. The organization is a piece of natural machinery, the life-force, the power that drives it, and the mentality, the quality that guides it where to go. The body is constantly changing; it is sometimes in a state of normal action, and sometimes in a low depressed condition, and all conditions of modification attend it; and the manifestation of life-force will always be found to correspond with the physical conditions There is not a muscle that moves, or the action of a pulsation, or the slightest motion, either voluntary or involuntary, without it changes, in some slight degree, every particle of matter that assists to make up the physical system, and the continual action that the body is undergoing is constantly manufacturing thought, so that every creature that livs is constantly dying, and also perpetually taking on new life. Therefore one thought can never be thought but once, for, to the degree that the body changes, to that same degree the mind must change, and any particular idea recurring to mind will always be clothed in a little different garment, or in some way be blended with thoughts which were not before associated with it. Consequently one event can never be lived but once, however closely thousands of others may shade upon it. Every change that takes place in the expression of the face imperativly must be associated with a different thought. Not a foot can be moved, not a finger can be raised, nor the slightest change in the attitude occur without a corresponding effect upon the mentality. In order to demonstrate this fact, try and

think of the same thing twice, and if you hav power to take cognizance of your own thoughts you will find that the second time you will associate something else with it; then next to test how the attitude changes the impression of feeling and thought, first lean your head to one side and attempt to solve a difficult problem, after which try with your head balanced upright, and watch the result, and see if there is any advantage in being level-headed.

It is well understood that all of the emotions are represented by corresponding facial expressions or physical demonstrations; for these various emotions are what excite the nerves with the electric force, to act upon the facial muscles so as to designate every shade of feeling realized at the soul's center. There are certain expressions which are indicativ of certain feelings, and where the emotions are complex, they all manifest their grievances, proportionately as they are felt, by telegraphing the same to the several negativ poles of nerves excited, which ramify externally, and occasion a corresponding action of facial muscles, thereby representing the inner feeling to the outer world. We would enjoy giving a short treatis on "facial index," but the subject is so intricate and difficult to demonstrate in writing, and so easily studied from the never-ending examples in nature, that we would direct the reader to the actual demonstrations which forever present themselvs, in preference to anything we could offer.

To affect the positiv end of the nerve poles, which is at the seat of thought, affects proportionately the negativ, which governs the facial expression; then since the electric force can act one way as well as the other, to affect the negativ end by any mechanical or

natural means must in a degree affect the emotions of the soul. Many persons laugh when they do not know what they are laughing about, for the reason that their faces get into a convenient shape for laughing, and it perpetuates the emotion. It is often the same with children in crying, and angry expressions will prompt angry feelings; and feigned sorrow will for the moment create sorrow. The emotion of fear, wonder, jealousy, indifference, love, self-importance, and every inward feeling, is as clearly written by nature on the face as it is felt at the soul's center. The ability to read nature's handwriting, with many, is very limited, but those who hav turned their attention to the reading of the emotions by physiognomical indications will readily concede to the facts of the foregoing. Some persons are mentally more obtuse than others, and some are able to conceal certain feelings by the art of deception, but all of these feelings are also portrayed on the countenance.

Even though grotesque features are made, the whole mind is comparativly acted upon. The actor of comedy or tragedy being aware of this fact, he endeavors by art to incorporate the genuin reality in his soul for the time being, in order to giv a good demonstration of effect upon the minds of the spectators. We are acquainted with dramatic performers who state that in acting some sensational parts they hav cried or felt as genuinly terrified, or realized all the depth of emotions that ever the original character of the tragedy could hav experienced. This expression and manner is what robes fiction in the garb of reality, and creates an effect almost equal to the genuin scene.

The attitude that a person assumes when the mind

is under the influence of any particular emotions of thought or meditation is a subject of great importance to the detectiv, sculptor, and painter. The picture painted to represent the ungoverned impulse of anger, portrays the person in an attitude of wild indignation, with all the terror of his combativ force exercised to its most heated ardency, and even a child would readily discern what passion was in the representation manifested. The same principle holds good in relation to all the different traits of character, and you will find it nicely illustrated by artistic skill all over the world, and in nature clearly everywhere displayed by actual demonstration.

It being a well settled fact that the mind directs the body, the character of the thoughts evidently must establish the character of the actions. The person who is delicate and tasty in his mentality must necessarily manifest the same in all he does, and his peculiar characteristics are in a degree represented by every act he performs. If a person be a reasoner, he cannot utter a sentence without it carries with it a cast of rationality, clearly showing the index to his character; while, on the other hand, if he is awkward in thought, and given to delusions, every action and manifestation of feeling will either lack precision, be clouded and indefinit, or meet with no satisfactory result.

Graceful feelings, graceful manners, and each action meets success,
For the labor of the genius doth his faculties express;
While the clumsy awkward fellow blunders blindly on his way,
His soul forever guides at random, ever leading him astray

See the man in meditation, bowing with the weight of thought,
Watch his manner, mild and silent, witness what his mind has
wrought;

Note how different the Indian, glancing quickly there and here,
Guided by his keen perception, governed by malicious fear.

Watch the manner of that lady, delicate in her physique,
Fine and exquisit in feeling, taking pride in being weak.
How unlike that bouncing Betty, strong and burly in her mien,
Moving with unpolished action, like some ponderous machine.

See that faint and silly lover, with insipid weakness shown;
How disgusting, lolling over her he fears to call his own.
Compare him with the gallant suitor, with some stamina of mind,
Noble, brave, and independent, firm, yet amiable and kind.

See the miser grasp his money with a visage hell might shame;
Watch his glassy eye, suspicious, feasting on his treasured claim;
Now behold the human features of whom gladly would bestow,
Comforts to his needy neighbor, kindness to all creatures show.

It makes the countenance look noble, for his soul is full of love:
And the blessings shower upon him from the unknown source above.

See that face of awful sorrow pictured from that woman's mind;
The last of her sweet darling children, all unto the tomb consigned.
Look the other way and witness mirth-distorting features wild;
How unlike the weeping mother, mourning o'er her dying child.

More examples we might offer, more emotions to portray,
Showing how the feelings govern, for the features to obey.
But the subject being easy, it is needless to prolong
This department any further in the limits of our song.

Each creature has its natural range of thought, and certain faculties adapting it to its sphere, many of which are common to man. The first life principle is the consciousness of being, the second is the anxiety to sustain that being, the third is the desire to perpetuate the species, and the fourth is the dual feeling of sexual love. These faculties are common to all creatures, except to those of spontaneous production, which come into life without any regular

course of procreation. The love of progeny is an earlier principle manifested by the creature than that of sexual love, and is an inherent quality that nature implants in order to stimulate sexual desires. In the perverted nature of humanity this principle seems to be generally reversed.

As the lower classes ascend, new traits develop, raising the creature in the scale of intellectuality, calling for still further perquisits to facilitate the onward march, and along with the actual necessities come the desires for comfort which relates to a higher state of happiness, bearing with it fostered hopes of to-morrow. Being inspired to look to the future for greater enjoyment, resting a faith on fond anticipation, the creature verges into humanity. How far this feeling extends beneath the sphere of man we hav no means of ascertaining, but it is strongly allied to the faculty of memory, and is doubtlessly realized in a degree by some of the quadrupeds, but can in no way be manifested. Another trait exercised in a degree by some of the animals is that of treasuring up the means for coming necessities. This reaches to their seeking a place to burrow or of protection, and a competence of food for a short period of time. The squirrels provide for winter, and the bees lay up their stock of winter provisions, also a few other species of animals and insects. In man there are no limits to his acquisitivness, yet this faculty springs from the principle of self-preservation in both man and animal, but proportionally as the latter is beneath the former its wants are more easily supplied.

The harmony of musical sounds is displayed in some classes of birds as a source of rendering themselvs agreeable to others of their kind, and, although

a natural propensity, is greatly subject to cultivation. A love for music is expressed by many animals that hav no faculty to execute it. Therefore this trait, like others, not only keeps in pace with the development of the organs for the execution of music natural to the creature, but is subject to being cultivated and often felt with a degree of pleasure in those that hav no power to make it.

The power of communication among the animals no doubt extends much further than has generally been supposed, and their abilities to understand each other in many respects to the extent that their natural language requires is doubtless very clear.

There also other faculties possessed by man which are manifested in some degree by some of the animals that we might mention, but we hav given the foregoing examples merely to show the mental relations existing between all animated natures, and that all were ultimately of one originality, and that all are on their way upward to the grand acme of intellectuality.

The object of living man only realizes as being for this temporary happiness, but nature has a higher object to attain, which fact seems to be universally overlooked. Life is just exactly what it is shown to be through the very demonstrations of birth, development, and death, and the object is clearly displayed, for when we hav reached to a certain degree and accomplished our mission, nature receives us for a new mission which the operations of this sphere fully portray. And so goes life; while a tide of the new is continually pouring forth, the old is passing away. And so it is with all animation, and what is it for? The universal laws at work are in earnest, and the

spirit of nature is fooling away no time. She has a purpose to accomplish, and that is a higher object than merely for a creature to liv and die. If that were all that is meant by the grand operations of a universe of worlds, who can help but remark that nature has strained hard to accomplish so little? But it is not all, for as the elemental substances are everlasting, so also are the living identites; and no more can the life of the least insect be annihilated than that all the life-force and spiritual power of the universe be rendered extinct. Nature does not forever labor for the accomplishment of but one thing, and if animation was born but for to die, and this was the sequel of it all, then one generation would suffice, nor would she continue generation after generation merely for no other object than the amusement of repeating. But there is a higher object, and one that is easy to be seen. Onward and upward is the order; and through the series of lives that each soul has experienced, man has reached the present standard of intellectual perfection that he now sustains; and when he turns and looks back over the path he has traveled, and views the various transmutations he has undergone, he can behold the flocks and herds and swarms on the upward march, occupying the same sphere to-day that man occupied many thousands of years ago.

You tell us that an ape is an ape, a horse is a horse, and a dog is a dog, and they were so four thousand years ago. We admit this fact, and even acknowledge that some of them may not be any higher to-day than they were then; but we would ask if by domestication any of these lower animals absorbs any human proclivities, and if it would be natural for the mental

and physical developments that they receive through human instruction to raise the standard of their mentality? If so, then we will here state that the soul identity that survives the natural body assumes the form of a globe, and at the time when transmutation takes place, which is between death and reproduction, on the basis of natural laws, this identity may become intermingled in the physical blood of man to form a human organization for an earthly sphere.

It is obvious that it would be useless for any life in the organization to exist, unless some object was accomplished by it, and is it not apparent that nature can deal with small things as judiciously as with large? and if so, when we hav thoroughly canvassed the grandeur of solar systems, and carefully studied the strict economy displayed in all her works, need we doubt the possibilities of her laws of evolution, resulting in all we hav pointed out? Would it not be folly and useless if when this transient course were finished, no benefits were to be derived from it either to nature or ourselvs? And do not we see those above us, and also those below us, and is it not reasonable to question how that this came to be? Then again, if we liv but to die and die but to liv, and so continue from generation to generation, what is the final end to be? We must reply to this that there is no final end; but the time will come when the harvest will be ripe on earth, at which time the spiritual force of this planet will be transported, by certain natural laws, to an orb of grander resources, and the frozen elements of the earth will continue to glide onward in their orbit, till at last the sun shall receive them to vivify his energies for the production of new worlds.

THE NERVOUS SYSTEM AND LIFE PRINCIPLES.

In order to comprehend the true nature of an animated being, the cause of consciousness, and the reason why the intellectual force is based upon physical developments, we must understand the action of the nervous system; for upon it the whole organization of body as well as the production of mentality depends.

We will not here attempt to dissect the physical system, or name the numerous divisions and almost innumerable subdivisions of the nervous tissue, and the parts to which they ramify, but in a general sense attempt to show the laws and forces controlling its action.

The nervous system consists of the cerebrum, cerebellum, medulla oblongata, the spinal column, and their various branches; and all together constitute the vital center and the numerous conductors distributed to every portion of the body.

The brain is the great reservoir of nervous force, and is to the whole constitution what the boiler with its steam pressure is to the mill. Here is where the electric force it concentrated after being generated in the body from the food we eat, the air we breathe, and the water we drink. These resources supply the blood, which renews the nervous tissue as well as the vital and motiv. You will therefore see that the operation by which the nervous force is supplied to the brain is like unto the process of keeping up steam in the boiler, in order to make the mill go; and the expenditure of the nervous force, by rendering action

to the body, is like unto the exhaustion of the steam whereby the machinery of the mill is kept running.

The medulla oblongata, being the most central point of nervous action, is the great distributor of the electric force through the system, and corresponds with the steam engin, which brings to bear all the steam force in the boiler upon the main-shaft, from which it is distributed by the various attachments and counter-attachments to the different sections of machinery in the mill.

As it requires a belt, friction, or segment bearing, in order to convey the force exerted upon the main-shaft to any other part of the machinery, so in like manner it requires a nerve extending from the great center of nervous force as an electro-motor conductor, in order that any volition of consciousness may be exerted to either contract or relax any muscle; and as it requires the action of the main-shaft in order to run any portion of the mill, so, also, it requires the action of the nervous center in order to create the slightest volition of the will.

In the business of the mill, there is a jurisdiction controling its running, but the mill has no knowledge of what it is laboring to accomplish, and in like manner nature's machinery is controlled and kept in operation without any exertion on the part of its own mentality. Nature prompts all animation to seek its subsistence, not only furnishing the requisit material but providing the creature with the power of obtaining it; but the natural action of circulation and respiration being involuntary, they are not necessarily controlled by thought.

As the mill is not the maker of itself, it therefore is not the possessor of itself, and this in like manner

applies to man; for as the miil could do nothing without man's aid, neither could man without nature's aid, and as the mill must depend upon external influences in order to run, so also must man in order to liv.

All voluntary action is from the effect of thought, and all thought producing voluntary action arises wholly from external influences, or that external to the mind. The spirit of consciousness, being a passiv principle, only acts as it is acted upon. Consequently if all external objects could be removed, and all remembrance of such objects obliterated, then nothing could be known or realized; and this idea is equivalent to the fact that if the consciousness could be obliterated and all sense of realization gone, then to such appreciation it would be the same as that all the universe were stricken out of existence.

If the soul before being robed with mortality, as the conditions of this sphere indicate, were conscious of its existence, then it must hav been a life-germ, and it would be plausible to suppose that it was an eternal principle of vitality acting subservient to a higher spiritual influence. It would therefore be passiv to the conditions surrounding, and only moved by the forces acting upon it.

From the above it will be seen that the life-germ, although conscious, has no jurisdiction over what form it may take on, or when or where be ushered into this sphere of life. As it was unable to control the circumstances of being ushered or forced into this life, the consciousness is still left subject and wholly passiv to the surrounding influences for the development of the intellectual nature. To illustrate, a child born among the cannibals is submitted to such society, and it is needless to say that through

the impetus of its inborn nature and the customs of the people, that offspring would naturally follow in the trail of its ancestry; hence Indian parents, Indian children; heathen people, heathen posterity; and intelligent communities, illustrious aspirations.

Now from the foregoing it is evident that the mind has but a partial jurisdiction over the body, and what controlling influence it has comes wholly from the source of external objects, conditions, and circumstances. The stock of images received by the intellectual eye may subsequently permit of a certain range for the deduction of ideas, but all of these impressions were but the result of images previously received to the mind. Consequently, while the mind may illusivly realize itself as able to control the circumstances, in reality it is wholly indebted for its origin and development to the control of circumstances.

But if all the ideas of the mind result from external objects, then it might be questioned as to just what effect an object must hav in order to create a thought? We would reply that it is the picture or images of objects, either real or imaginary, brought to bear upon the nervous center, through some of the five sensorial channels, or else through certain impressions not easily to be demonstrated, which create all the ideas of the mind. Any outlines, image, or object, whether real or imaginary, when brought to bear upon the mind, is transformed into an idea, and the means by which they are conveyed to the understanding, must be purely of an electric nature. The effect of an idea first givs action to the nervous system by the transmission of electric force either through the sense of seeing, hearing, feeling, smelling or tasting, and then reflects upon the muscular sys-

tem, by way of the motor nerves, proportionately as the nervous center is excited. For illustration, a person seeing his house on fire is electrified from the effect of such a scene; the excitement of mind acts upon the motor nerves and givs a corresponding action to the muscular system, and vigor is displayed in the attempt to put out the fire. Again, a person may feel in a very pleasant and passiv state of mind and be enjoying the pleasures of brilliant prospects, when placidly he may reach and take up the daily, just fresh from the press, and read of a railroad disaster with the name appearing of his wife, son, or daughter, either dead or suffering the horrors of the wreck. The effect upon both mind and body is instantly spasmodic, yet he has seen nothing to occasion it but simple ink impressed in a certain way upon innocent white paper; but he receives an idea which has pictured all the terrors of the disaster upon his imagination, consequently the result.

Through the sense of seeing the visible objects are made known to us, but it is a question of doubt as to whether the various objects are seen in positions they occupy, or if a representation of them is only realized in the camera obscura of the intellectual reflector. If the latter be true, then it is clear that the mind is but a negativ representing the positiv, which in reality is never seen. For illustration, a large, pure, and perfect mirror will reflect the objects or landscapes to such a degree of perfection that the beholder positioned just right will be unable to tell the real from the reflected scenes; yet while he unknowingly may gaze upon the representation, believing it to be true scenery of nature, he is only looking to the distance

of a few feet against a thin plate of glass with a quicksilver coating behind it.

In relation to our sense of hearing, it is obvious that only the effect of material commotion is conveyed to the auditory nerve whereby we are made conscious of the clashes and collisions vibrating upon the atmosphere, instead of any actual material arising from such effects ever reaching the nervous center. This, you will see, is another provision by which the spiritual nature receives a knowledge of the material action surrounding it, and also an evidence that in order to constitute the real it is necessary to include the ideal.

The sense of feeling arises from the action of the nerves of sensation, which constitute a system for that purpose, as has already been explained. These nerves act as conductors, delivering messages to the consciousness, revealing to the understanding the nature of whatever the body comes in contact with. Through this agency the mind is enabled to guard the body from injuries and direct it to benefits. Feeling is an effect upon the nerves which acts by degrees of intensity. That which in moderation produces pleasure in intensity creates pain. For illustration, to place the ends of the fingers upon a smooth table and move them gently back and forward causes a pleasant sensation, but violently moving them in this way occasions friction, generating heat, and consequently creates pain. In this way all the various phases of touch may be realized. Thus, what when lightly touched appears soft when more violently touched or struck appears hard, because of the increased intensity. Pain is an indication of physical injury, for something must come in contact with

the person which injures before the pain is felt, but it is hardly probable that any real substance must come in contact with the nervous center, or be transmitted to the brain, before the consciousness is susceptible of the physical damage being done. The finger or toe, or any part of the person that is hurt, is wholly unable to realize the fact, but receives the information by an electric message sent to the nervous center, and not until a reply to that information is returned does the injured part recoil. But it is not the tangible alone that can bruise and mangle, for an entire exclusion of all material, could a part or the whole of the body be submitted to such a test, doubtless would be still more disastrous. For illustration, a perfect vacuum, or as nearly so as it is possible for matter to approximate in the heavens, as in the discharge of electricity, occasioning thunder and lightning, even the power of the partial vacuum upon the surrounding material is doubtless far greater than though a bolt of solid steel of equal magnitude were projected with the same lightning rapidity. This is to show that a perfect nothing would be far more demonstrativ upon everything around it, than so much space occupied with the strongest material. A finger placed upon an anvil and struck a heavy blow with the hammer would be badly mashed, but if it were possible to submit the finger to a perfect vacuum it would be instantly obliterated, and completely etherealized to occupy the space of the vacuum.

As the sense of feeling is purely electric, the nerves of sensation are most acute where they are brought most into action. In the human, the ends of the fingers being most convenient to act as a testing agent for the mind, they are therefore the most acutely de-

veloped to the sense of touch. However, there are certain delicate parts, the eye, for example, which is very sensitiv to foreign matter, which serves as a protection, but the mind cannot judge correctly as to the kind of speck, mote, or fiber offering the intrusion; while the ends of the fingers, in many cases, will even serve in the place of vision, and with those deprived of eyesight may become so acutely developed as to enable the person to read from raised letters with great facility, and even judge with accuracy the material and texture of fabrics, and some under a test hav told correctly the colors of various kinds of cloth and also the shades of different paintings. In touching the ends of the fingers to any object, an exchange of electricity from the person to the ocject, and the object to the person, instantly takes place. If the object be a good conductor, the electrical effect extends to every part of it with lightning quickness, while that which comes from the object to the ends of the fingers goes with lightning rapidity to the seat of consciousness. The natural application of the sense of feeling shows the necessity of such a provision in order to fill the requirements of men as well as all other animated creatures. Animals, however, hav the nerves of sensation the most acutely developed at the nose instead of the foot, for the reason that it is made to come in contact with all the animal subsists on, in the absence of hands for transporting the food to the mouth; yet there are some exceptions to this, as is the case with squirrels, apes, and monkeys, while the elephant is provided with a long trunk, which is but an extension of the nasal appendage, such being an absolute necessity, since without it the animal would hav no means of getting his food to his

mouth. The elephant's trunk, though apparently a cumbersome organ, yet from the use to which it is applied, the nerves of sensation are developed to a wonderful degree of acuteness.

Animals and insects with habits which keep them constantly secluded in darkness are never favored with the organs of vision, from the fact of there being no application. Such animals at all portions of the bodily surface are peculiarly acute to the sense of feeling. For example, such a creature, when exposed to the light, having no eyes, would be as much in darkness as though in a dungeon, and yet they most vehemently manifest the change; and although the elements of their atmosphere may not perceptibly differ from those of the light, still the creature so subjected in a short time will die. This is probably occasioned by the light's diffusing the electric force which the creature otherwise would imbibe. The mole, particularly the species that has come under our observation, is wholly devoid of eyes; and it livs constantly in the ground and in total darkness. The same encaged in the light, although fed with its natural food and supplied with fresh earth, can liv but a short time. The fish found in the caves where they are constantly in darkness show signs of great uneasiness as soon as ushered to the light, although wholly devoid of the organs of vision. They hav an acuteness of feeling doubtless sufficient to answer in the absence of eyes, as it is wonderful to notice with what facility and swiftness they will shoot between the crevices of rocks, seldom coming in contact with them, as if an electric effect of the rocks or other substances of obstruction were clearly felt upon the body as it approximates near. No doubt that if

these various creatures of darkness were gradually accustomed to the light until hardened to its effects, and so kept for a series of generations, they would eventually grow less acute of surface sensation and at the same time a development of eyes would take place.

The sense of taste, also of smell, constitute the two other channels through which external objects appeal to our reason, but it is not any more reasonable to suppose that either the gustatory or olfactory nerves convey more than the *effect* of substance to the seat of thought, the same as those already mentioned, instead of the substance itself. And yet how perfectly the mind can realize the slightest shades of difference among the numerous kinds of substances which appeal to these senses. Now while the gustatory nerves act as a perfect guide to the unperverted appetite, they are conduciv to the pleasure afforded by appropriate food adapted to nourish the system, and as much may be said in behalf of the olfactory nerves. The rich savor from the cooking of wholesome food, arising into the air, appeals to the famishing stomach, through the agency of the olfactory nerves, as the smell of fresh meat to the hungry lion; while the noxious vapors arising, which if inhaled largely would poison the blood, the stomach manifests its aversion to by way of the olfactory nerves, which carry the message to the consciousness, with the information of the poisonous intrusion, which information is conveyed to the stomach by other nerves, when against such intrusion the stomach revolts. So it will be seen that the contrasting principles of pain and pleasure are very delicately associated with all the nerves representing the different senses, and the more acutely

developed are these nerves the more keenly will be the mind to discriminate the character of the material coming in contact with them. Therefore people or animals most accustomed to testing the nature of different substances by any particular sense, of course, are most reliable to judge in that way.

. . . . . .

Now here are a few points to consider. First, in the nature of things, an actual principle of consciousness must exist, for, as we hav shown in a preceding chapter, without it the existence of all else would be useless. Next, there must be some means to convey a knowledge of things surrounding us to our consciousness, else there could be no development of intellectuality; hence the requisition of the senses. Life and consciousness may be felt in certain species of the lowest animation, including the acephalous orders, without the application of the senses, but their life-dream is passed without the power of thought, and unconscious to all else except themselvs. An electric center is sustained in their bodies by an absorbent quality that matter possesses, but no nerve conductors are distributed for that purpose. Their sustenance depends upon the chemical affinity between their bodies and the surrounding material rendering to their growth. The same is displayed in the formation of the shells of molluscan types, inclosing and protecting the development of the inner life.

Next to consider is the object attained by Nature, regarding her as an intellectual principle, in the progress of her physical and intellectual developments. We hav already made reference to this, but desire to investigate still further. Although Nature may be just as rich with all these forces existing as

one great ocean of spirit, yet as there could be no action in an infinit unity of power, the universal jurisdiction can only be manifested through infinit divisions and subdivisions of divine authority, and yet all acting in one universal harmony. That there is a power of supreme intelligence we will not question, for we know that out of the infinit fountain comes forth all appreciation of understanding; for, were this not so, then the universe would lack this most important principle for which purpose matter only exists. If all matter and all mind could manifest their power only as a unity, then all matter would move relativly together, which would be equivalent to no action at all, and all mind move therewith without any possible opposition, which would be equivalent to a grand time with nobody to it. But with the divisions and subdivisions of life and thought it givs counteraction, storms and wild commotion, and while everything is seeking its rest, everything else is preventing any rest being had. Therefore, instead of there being but one supreme power of intelligence, acting eternally for its own glory, there are innumerable centralized existences, each as important to itself as the great power that rules the universe is to itself. Each of these beings and creatures, though some so small the glass cannot discern them, holds a life within itself as dear to its realization of existence as the whole universe is in relation to it; and if it were possible that the spirit entity of even the smallest of these creatures could be rendered extinct, then there could be no power to reproduce it, any more than though it were the greatest consciousness that pervades in nature. But this realization of being is quite different from

any of the senses through which the knowledge of external objects is conveyed to it. The insect may feel as intensely that it livs as man, and struggle as vehemently to flee from danger. And we see that Nature has shown no partiality in letting one liv forever in this sphere any more than the other, but even find that some of the lower orders are favored with the greater longevity. Then, assuming as a fact that one is perpetuated beyond this sphere of life, it is positivly an assumption that all must be. We hav already shown that man is but a product from an animalcule, and even though it requires millions to combine to form the embryotic life, yet it is a positiv proof that the animalcule has its future. But from this course of reasoning we hav not so good evidence that man livs beyond the present; still, the analogy is a plausible reason that he does. But while this may be so, it is obvious that when a separation of soul and body takes place, at that instant all of the senses are gone, for the reason that there is no application for them, and no organs to work upon even though there were. But you see that this is a heavy stroke upon all idea of futurity. However, let those who dote so largely upon it not get anxious, as the way is still clear, as I will endeavor to show you by and by.

That the life of each creature is supreme in importance to itself, I think no one will deny, when we bring the idea home; for although one may be far more useful and important to the world than another, still the inferior is superior when considered by himsef. This is an important lesson to consider when regarding the rights of our fellow-beings, but somewhat off from our subject. It shows, however,

that we are but a sample life, and in this respect on a parallel with all other living things, therefore the mere magnitude of body does not necessarily add to this principle of being.

The only way that a creature can rank itself with others is by comparison; hence if one should liv wholly secluded from all others it might regard itself either the greatest or smallest of all, or even the only one there was. But associated with others, it soon learns to what power it must yield, and over what it holds supremacy. This principle holds good with man, although he can boast of superiority over the beasts, birds, fishes, and insects. Yet he is not the highest in authority, for he, like the rest of animation, must yield to natural law. Now those who are unwilling to accept of an intelligent jurisdiction above us, may vaguely ask, "Where is it?" not being able to discern the physical make-up of such a power, or in which such an intelligence, or rather intelligences, for there are millions above us as well as millions below us, may dwell. I am very glad to see that the state of society is such as to reject the idea of any old barbarous deity, as represented by ancient mythology, but in leaning so heavily from it, in the assurance of right, the question is as to whether we do not go as far off of balance the other way. Man possesses wonderful faculties, which the constituents of his being, all arising out from the great fountain, hav given him, but we cannot see those faculties—they are principles, as we hav already said, which lie hidden, yet we attribute them all to the sphere of man, because we can discern the organizations from which they are manifested; but while those principles are everlasting, these physical organizations are only

transient, and sink to rise no more. Then whose faculties were these before being received by man, and whose are they after man's physical tenement has gone? Let us suppose that every atom that goes to form man's physical organization were in itself a living creature, possessing certain faculties adapted to its sphere, and that these billions of little creatures liv and die, in an instant of time, and generation follows after generation, through all the period of our lives; what could they know of the great creature, man, whom they in the aggregate constitute, and what could they understand of the attributes of his nature? Now suppose we apply this principle to the aggregate of material, including the organic as well as the inorganic, or what is so termed, that form the constituents of a world. Then, on this basis, a world or planet has the quality of thought and understanding, as well as we; and, if so, doubtless proportionately greater. But how can the earth think? In reply we would say that if our theory as to how any creature or man is enabled to think be true, then, upon the same conditions can a world think, for it is undeniable that all electric force contained in the constituents are possessed by the world in the aggregate; and the fact of the earth's having an attractiv center is evidence that she has an electric center. We hav shown that in order for a person to manifest any action, there must be a proportionate amount of electric force exhausted to correspond with the action, and the same may be said in relation to the material substance of the body; and in order that the person may keep living, it necessarily must keep taking on an equal amount of both material substance and electric force to the amount that is

constantly being exhausted. The same principle holds good in relation to the earth. It has been estimated that several millions of tons of material substance is annually received by the earth from the surrounding heavens through which it rolls, while at the same time she is receiving largely of heat, light, and electricity from the sun; but in the face of all this, the earth is in one sense losing constantly instead of gaining; she is throwing off caloric and electricity, as she travels through the low temperature of the heavens, in excess of all she is receiving, and gradually losing her central heat, which in time will exhaust all her powers. This, however, is not the case with planets in a state of formation, because they are less dense, and sustain a higher degree of caloric, especially so at the surface, from the effect of chemical action occasioned from the combination of all the material elements being associated together. This shows how that the natural quality of caloric is generated from the combination of the elements; but our earth is getting past that age, as is shown by the various densified strata of geological formation. But according to the nature of all life, as the body wanes, the intelligence matures, and so with earth in her development; hence, during this period, and for a few thousands of years to come, she will be lifting her excellences to the surface, during which time all animation and vegetation will display their most brilliant qualities.

But while the earth possesses her various adjunctiv qualities, she is made to act as an adjunctiv principle of the sun; and thus, in a like manner, the electric forces connect in one great social economy all the attendants in the solar system with the sun. For,

as e sun is the center of attraction, so also is it the center of electric force, thereby establishing a still greater point of jurisdiction, by which all of the surrounding planets in this system are controled. But it will be seen that the sun is constantly exhausting his treasury of forces in contributing to the necessities of his subjects, and it is evident that unless there were corresponding resources, or a natural taxation upon these attendants, his brilliant and renovating rays of light and heat would eventually cease to radiate. Now, as a rule, whatever is supplied from any great reservoir in time must return to that reservoir; and this we find exemplified in thousands of ways, and in small things as well as in great. For illustration, the ocean is taxed to supply the land with moisture, that vegetation and animation may liv, and in turn the land is giving back a corresponding amount through her numerous rivers and tributaries. A national metropolis may afford sufficient supplies for the consumption of all her colonies, and enact wholesome laws for the protection of all her people; but in return she must hav an equivalent, else the outside would flourish at the sacrifice of the center, which eventually would be disastrous to the whole commonwealth. Now, as Nature is economical with ner general principles, the same justly applies to the sun in relation to his subjects. Thus, while he is acting as the head-center of a great celestial commonwealth, he demands the necessary resources to keep up his regular supply of forces; therefore, through his immense attractiv power, he calls to his need the nebulous matter surrounding—the continual rain of meteoric showers, the thousands of infant planets which commenced their growth in too close

a proximity to ever develop, together with the larger planets as they, in their useless conditions, hav at last reached their final destination—and all of this material, with the same judicious economy that is forever characteristic with Nature, he appropriates to the most perfect advantage to supply light and heat to the children of his family, which by radiation is sent to the very outer limits of his celestial fields, some of which is to be appropriated for the building up of new planets. But the material of the worlds that undergoes this ordeal, as they plunge into the sun, is rarefied by the intensity of the heat, and distributed in every direction through billions of miles of space. This is a fair representation, with the exception of the intensity of the heat, of how the physical bodies of all animate beings are distributed through space, when dissolution takes place.

Where, then, will hav gone the spirit of the earth, and where then will hav gone the spirits of all the other worlds? But getting still nearer home, where then will hav gone the spirits of all that liv upon the earth and all of the other worlds? Be not anxious, ye who are unwilling to yield up your consciousness of existence, for upon this subject we are not to be taken by storm. But wait a little longer and we shall see.

Now you see from the course of our reasoning that from out of the great ocean of spirit originate all of the organizations of animated nature, their identities and spiritual intellectualities; and do you see that there was eternally a capacity in nature to render up these lives? Then from what did they spring except from the principles that nature holds in the aggregate? The material composing our bodies is sub-

ject to infinit changes of separation, combination, and distribution, which changes are constantly going on even in our present condition of living, and we hav shown such to be the case from the smallest of living creatures up to the dissolution of worlds into sunlight; therefore to depend upon any special condition that matter may assume, for our immortality, would be a vague and ridiculous calculation. But hav we not already shown that matter in the aggregate carries with it all the principles that nature possesses, from the fact that there would be no principles to govern were there no material to be governed? We hav shown what the constituent principles are that are associated to form the animated being, and as you see we found nothing but matter and the laws by which matter is controled, where, then, was the spirit before the organization originated, and where will it be after the organization has dissolved? Now we hav reached the bottom rock of the annihilation theory, and the heaviest argument we can master against the idea of immortality; but while these arguments are based upon facts of scientific investigation, still, my friends, as we do not wish to beg this question, stand by me a little longer.

We hav already shown the importance of electric force as a constituent of animation, also its necessity in all the operations of material action; we hav likewise seen how that this agent may be collected from the common atmosphere by which to charge the galvanic battery. We hav assured you of the fact that there is no more and no less of this agent in the universe at any one time than another, and that what one thing possesses of it more than its usual share is borrowed from something else which for the time

being possesses proportionally less. Now in the construction of the electric battery, certain things and materials are appropriated and adjusted so as to create the desired results, and the larger the scale upon which the apparatus is constructed, all things else being comparativly equal, of course the greater are the effects manifested. Then here we hav a demonstration of power which is generated by the concentration of a force that is natural to materiality, and which to a certain degree is made subservient to the will of man. But destroy the battery and where then has gone the agent that manifested this power? Then when the great earthly battery is destroyed whence goes its enormous demonstration of power? And when these transient tenements of ours are destroyed, whence goes the electric force from which all of our actions are manifested?

Then "dust returns to dust again," and there is no organism left to retain this concentration of force. Then the great question is, What is there left as the nucleus of another animated body? Now we need not console ourselvs to think that there is an imaginary something which is entirely devoid of material, that we may call the soul or spirit, left to soar to a heaven that is made of nothing, where there is perfect Elysius constituted out of nothing, and where a grand nothing pervades, and everybody there to enjoy it, for the inconsistency of such an idea is at once apparent, consequently whatever our faith may be, it is advisable to cling fast to the substantial qualities of matter. But you say that in our theory we hav robbed the soul of all its material, leaving it nothing to cling to, and no powers for clinging! Well what are you going to do about it? We can see

nothing except that you let us conduct you on through this darkness as we propose to do!

But before I go further, do not call this a mysticated subject. Do not for a moment consider, as some are prone to claim, that we are laboring entirely in a field of speculation; but, on the contrary, remember that we reason from the axioms *that we do exist; that we were introduced into this sphere, do develop, and shall take our departure; that there were causes which produced us, and that we are living for a purpose.* Now, with these undeniable facts before us, this theme is but equivalent to a mathematical problem, the means being given by which to arrive at the end.

MISCELLANEOUS SUMMARY.

See how all creatures are endowed, allotted to this sphere,
With power to scent, to taste or touch, or else to see or hear,
To bring the knowledge of external objects to the mind,
Inferring that some master hand these qualities designed.

What guides the atoms that unite to form this transient frame?
Tell whence the nucleus arose, from what great source it came?
Tell why was ushered into life such forms of flesh and bone,
And tempered to the latitude of hot or frigid zone?

Note the systematic order by which everything is run,
From the atoms 'neath our vision to the proud, majestic sun!
From the scenes of creeks and rivers winding onward in their course,
To the broad expanse of heaven, the unbounded universe;
How that all in seeming warfare doth in harmony conjoin,
As the waters of the rivers with the ocean all combine.

Go seek the smallest insect that your lenses can discern;
From its *modus operandi* and organic parts, pray learn
If the hand that guides the universe, by either freak or flaws,
Has failed in one iota there to carry out her laws.

Go view some monstrous animal of any kind or class;
Compare it with the insect you examined with the glass,
And note in either creature how sublimely are displayed
The faculties thus furnished and adjusted to their aid.

Though richly they're provided, the economy is such,
Each is filled unto the measure, but is granted none too much;
And thus through all eternity nought ever is misplaced—
There is just enough material, but none to go to waste.

And is this all an accident of matter without mind?
And is it all the work of chance, unguided or designed?
If this be so, pray tell us why that wisdom finds a place
In such half-savage mortals as our low developed race?

You ask me where that power exists, if dwelling high or low?
And in sarcastic vagary would challenge me to show;
But of all Nature's forces, is there one that can be viewed?
If so, then make it visible, since you hav been so shrewd.

A boy once caught a garter-snake and held it 'neath a rail,
And then began dissecting it, commencing at the tail.
And being asked his object, he replied, "I want to know
Just where the life is located that serves to make it go.
It must indeed be funny, and a dollar I will wage,
If I hav luck to catch it once, I'll tame it in a cage!"

Now, he who looks no higher than a creature of his kind
For never-ending principles, or universal mind,
Would be as inconsistent in attempting to explore
The infinit capacity, unlimited in power.

The evidence is everywhere, in flower, leaf, or tree,
In every verdant landscape and in every raging sea;
In every bud that blossoms, in plant, fruit, grass, or grain,
But while they're smiling on us, still 'tis evidence in vain.

Bright prodigies are offered us fresh from the hand divine,
But by us viewed regardless, as r ch jewels are by swine.
Above us and below us, and around on every side,
The proofs are clearly shining, yet they boldly are denied.

We don't condemn the insect, though, for being weak and small,
Nor censure those molesting us for their unwelcome call.

They know not their intrusion, nor requirements of our will,
Yet in our self-protection we are justified to kill.

We, too, are like the insect in one sense, if not in more:
Regardless of the spheres above, unconscious of their power.
Our ignorance is innocence; yet, every breath we draw,
We're subject to the penalties of some offended law.

The ravenous mosquito, quite unconscious that we feel,
Seeks but its self-protection, and directed to its weal,
While peacefully partaking, like the babe upon the breast,
Is crushed into eternity, or painfully is pressed.

Again, the ones destroying our garden trees or vine,
And forced to liv by Nature, or by Nature's laws divine,
On food the most adapted and allotted to their claim,
Which innocently they partake, not feeling any blame.

Yet still we cast the poison which they fatally receive,
Opposing that great power which created them to liv;
But Nature in all tenderness accepts them as they come,
And through our willing agency thus kindly calls them home.

Who knows what livs above us, and their powers to destroy?
Who knows but what in many ways their peace we may annoy?
Who knows but what the violence so often we hav felt,
Has from some higher agency, designedly been dealt?

Who knows but what infections, pestilential in their course,
Are from some higher agency of intellectual source?
Whose poisons hav been sifted from the regions far above,
And yet in death they welcome us in sympathy and love?

Just think of dire contagions which mysteriously appear,
Which make the dying pass to death, the living shake with fear;
Or note the wars and famin which oft devastate our land,
And how to name their origin we scarcely understand.

Now, this is speculation but the moral don't evade;
How limited our power to know, with all of Nature's aid,
How broad the field for knowledge is that man can ne'er survey,
And what the attributes that guide all nature to obey?

We speak not of the heathen gods in form of man or brute,
Nor of imaginary ones of any kind to suit;

But of illimitable force unbounded by a shore,
Which permeates where finite creature never can explore.

Thus vital force of every sphere, through all gradations linked,
Reach from the higher grades of life to lower ones extinct;
And as the steps are taken, and one foot below is pressed,
The other o'er the river on a grander shore doth rest.

Thus from the lowest creatures up, each verges on some goal,
And, link by link united, form the universal whole;
And each adapted to its sphere is happy there to reign,
And hidden from all future life is anxious to remain.

But when developed to this state, no longer can we stay;
While darkness hides the book of fate, we're forced upon our way.
Thus all from atoms spring to life, and all to atoms go,
And yet a principle is left no power can o'erthrow.

We may be partial to the thought, that when this life is o'er
The dormant body sinks to earth, and sinks to rise no more.
But mere opinions can't control, however nice the aim,
The laws of Nature reign supreme, the facts are just the same.

Though sacred ardor may be felt, and hope on faith may rest,
With strong assurance that in death the soul is to be blessed,
And that a kingdom far away, with God upon the throne,
By his tribunal separates the evil from his own;

And that a mansion wide and high, not made with human hand,
And round the infinit estate are fields and rivers grand;
And crowns with sparkling diadems, made by the hand divine,
And garments which the longer worn the more in luster shine;

Where we may meet our friends of earth, who long had passed before,
And in sweet harmony may dwell henceforth forever more.
The picture is too lovely, most, for any hand to mar—
So may this grand delusion rest on some bright, shining star.

They who hav hope and faith so strong this firmly to believe,
While groveling through this vale of tears, some joy they may receive;
Yet 'tis a mansion of the mind, so gorgeous, wide and high,
And which if any ever find, 'twill all be in their eye.

Therefore the real and ideal may differ all must know,
Mere faith that this or that is fact can never make it so.
But what may constitute our joy contrasting scenes reveal,
And on the other hand display the fears we're doomed to feel.

And while our fancied pictures doth celestial pleasures show,
The doubt of reaching such a port doth picture pain and woe.
Instead of charming sceneries and everlasting songs,
The writhing of dread agony unto that place belongs;

The fires that rage within those souls forever in despair,
For which proud heaven can ne'er atone, by either hope or prayer;
And as we realize the joys surrounding us above,
Suppose we view below the hearts once linked with ours in love;

Suppose it be a darling wife, near kin, or only child,
How suddenly would we be plunged in anguish deep and wild!
No more the charms of heavenly bliss would thrill with sacred love,
We'd leap into that dread abyss, forsaking all above.

A pure and sympathetic heart, with love both deep and true,
Would sooner share such agony than such a prospect view.
But, glorious to contemplate, such vagaries cannot wave
The jurisdiction which controls the power to damn or save.

How fortunate that crazy dreams ne'er made a heaven or hell,
And that the laws of nature run the business wise and well!
That they impartially preside, just as they did of old,
Ne'er bent or broken by man's wish, nor ever bought or sold!

And still a yearning yet is felt, that we should liv again,
So strong that hope has introduced ten thousand creeds to reign;
And while that science doth ignore these dark delusions taught,
Yet still the masses of mankind are in their meshes caught.

How strong the pressure seems to urge man to some future goal,
For of all who denounce this claim, how few can I enroll!
Yet in the face of such belief, when death comes all is o'er,
We're like the ship that sailed away, and ne'er was heard of more.

Now why did this idea arise, apparently untrue,
In opposition to our eyes, and scientific clew?

And yet how much would we desire, as temporary gain,
To sell all chance, when we expire, to ever liv again?

Just send to me one single mind who would not hesitate,
To say in honor he ne'er dreamed of any future state.
But what the nature of that state it puzzles man to tell:
Hence all the phases are displayed, from heaven down to hell.

The thought occurs that "we now liv," a thought deep and sublime;
And if we ne'er can liv again, why liv we now this time?
But to assert a future sphere, asserts we've lived before,
Or else the ends are close each side, and we shall liv no more.

But we emphatically hav shown three spheres that all hav passed,
And therefore most emphatically deny this being last.
We've shown that nature's forces, too, in no way can be spent.
But are eternal as to time, infinit in extent;

And act from smallest particles through universal space.
Her work is ne'er completed, and unlimited her race;
And yet like perfect clock-work the machinery so runs
That while the greater she achieves the lesser never shuns.

How can such perfect order all be accident or chance?
How can all run unguided, yet so gloriously advance?
And how can such developments judiciously arise,
Without the jurisdiction of some unknown power wise?

Still as you cannot fathom this infinity of mind,
You argue in your ignorance that nothing was designed;
That all acts through necessity, by laws from day to day,
Which laws are self-adjusted, and all matter must obey.

You tell us that they rule supreme, nor wisdom doth preside;
That from celestial forces planets never can collide
And yet we fail to understand how they can form and roll
In such exquisit harmony without some thinking soul.

There's something in attractiv force compelling them to act,
But how to nicely balance and fly onward so exact,
With no intelligence to guide, is easier to deny
Than that a ruler infinit doth guard them as they fly.

We know small creatures do exist, with corresponding mind;
We view these demonstrations, in every form and kind;

We know how circumscribed their spheres and limited their sway,
From those abiding many years to those of but a day.

And would it seem most reasonable, these creatures large and small,
And man included with the rest, includes the minds of all?
When stars unnumbered twinkle through the heavens to our gaze,
With distance beyond measurement, seen in all different ways.

And can we for a moment feel that there's no power higher;
Nor any sphere beyond this one for which we should aspire?
That all our fond reliance must on human kind be cast,
Whose life is but a transient dream, then evermore is passed?

When creatures so inferior appreciate so far,
Why not the copious magnitude of every shining star?
And why not some capacity beyond our power to know,
That may in wisdom guide them in the path that each should go?

If there's no grand intelligence above the thoughts of man,
What is it that exalts us so to traverse this brief span?
And why in all our trials does reliance rest above,
And trembling fear seek solace through our prayers of faith and love?

Would not the sorrows of this world oft land us in despair,
And often all our courage fail, devoid of faith and prayer?
For even those denying God, not feeling any wrong,
Oft pray for temporal results, most ardently and strong.

From whence arises to the heart, the prayer for things we need,
Not to be spoken, but confined, in order to succeed?
Unto what principle doth go the deep desires we feel,
And from what fountain deep doth flow the blessings of our weal?

Who undertakes an enterprise, unhopeful of success,
Grows weary in his indolence, or labors in distress;
But when some kind encouragement assures him of his share,
His mind is filled with energy, and heart with hope and prayer.

Rob from us suffering mortals this grand principle of hope,
There's not an obstacle in life with which we'd dare to cope;
Nor would in any enterprise be willing to engage,
But each would in discouragement write finis on his page.

But do we scarcely ever dream, on whom our hopes may rest,
Or stop to reason from what source our hearts are to be blest?
And yet we're conscious if no force were exercised to gain,
Our faith and prayer till doomsday might be offered up in vain.

And still the monitor excites the muscles to perform,
And fills the mind with firmness to combat the raging storm;
But when at last our hopes are lost we readily giv o'er,
And sink when with a stronger faith we might hav reached the shore.

Oh, how delightful then is prayer, to all who can believe,
Since, asking with a deep desire, and working, we receive;
Since, wishing with all energy of faith, mind, heart, and soul,
And striving with all diligence, we're bound to reach the goal.

The motiv and the monitor in harmony combine,
To stimulate the muscles for achieving the design,
But all our fond reliance felt would quickly pass away,
Were there no generous principles our wishes to obey.

No doubt that most the worshiping, with vague, delusiv prayers,
Arose at first from selfish fears in temporal affairs;
But leading from the natural, so spiritual became,
It landed millions in the gulf of superstition's shame.

Still, religion is a sacred rite, though vague in many ways;
The need of such a field for thought the fruit itself displays.
Although man's qualities were such in his primeval time,
His doctrins for these modern days are not the most sublime.

Of course the attributes of God, as they taught and believed,
Were of the grandest character their intellects conceived;
And, as a rule, what then was true to-day is true but odd—
Each in proportion to himself was author of his god.

Hence, those of low depravity to dreadful gods wou'd bow,
But minds of greater moral worth such gods would not allow;
Thus dark delusions are displayed in each religious clan,
But 'tis no god that makes it so, but ignorance of man.

And those who follow in the trail of vague traditions old
Are living far behind the times, nor grander lights behold,
While those who seek new doctrins and proclaim some greater lord
Plunge into new delusions as atrocious and absurd.

Therefore, to reach the solid facts in heavenly faith, go slow;
But study laws and principles, and judge from what you know,
Nor yield unto some lunacy of mansions in the sky—
'Tis dangerous to shun the earth and strive to soar so high.

Although a thousand ways are shown where all are to be blest;
Where all our sorrows hav an end, and souls in peace may rest,
Yet if we canvass any one, though pictured e'er so well,
The tinsel of romantic charms departs and leaves a hell.

If to the spirit world we soared and carefully surveyed
The prospects for eternal joy, as fiction has displayed,
How soon we'd view the pro and con, contrasting joy and bliss,
And struggle as from prison there, to reach a world like this.

'Tis but delusion of the mind that makes the heaven so fair,
But only is adapted for the self-same mind to share;
But not the pleasures of such home need envy seek to rob,
Since all who proudly pass the gate will gladly jump the job.

You know the Indian has his heaven, which suits him to a "t,"
But all such charms would make a hard old place for you and me;
And yet he makes it natural—more like the life he leads—
And therefore full more rational than many other creeds.

What constitutes his pleasure now he wants to liv again,
And, just like others, would escape all sorrow, grief, and pain.
But any fancied future state our faith and hope behold
Would grow no doubt quite tedious ere growing very old;

For though we joined in praises and continued it in song,
We'd tire of this monotony from such a noisy throng;
And were we of the chosen few, invited there to shout,
More eagerly than e'er get in we'd struggle to get out.

So 'tis a blessing if these fancied joys we never gain,
Since what is wholesome food for one oft proves another's bane;
But of all evils that arise, what other could compare
With the indulgence of our faith through vague and selfish prayer?

But oh, the glories of this world let each with joy receive,
For 'tis no world of fiction, but in earnest life we liv—

In every feature just adapted to us every way,
And 'tis no wonder we desire so long hereon to stay.

But laws and principles hav fixed the boundaries of life;
This transient span is short at best and mingled in with strife,
And soon or late each mortal shall approach the fatal shore,
And when the solemn scene has passed, 'tis passed forevermore.

But since the power that controls has ushered all things forth,
Since from the unknown fountain we are forced upon the earth,
In nature's possibilities the principles remain,
Whereby this self-same consciousness may come to earth again.

And this succession shall advance from birth to closing scene,
While on each side the curtain hangs to separate between;
And thus the soul's development ascends from sphere to sphere,
And scarcely passes into death 'ere into life appears.

But why return to earth again, nor scale the clouds afar,
And seek a happier world than this upon some brilliant star?
Why pass through trials of the earth and suffer all its pain,
And thus evolve from life to death and death to life again?

Just follow and I'll tell you why, recount from age to age,
And note the grand developments as shown on history's page;
The centuries are fresh to trace, the records being fine,
When three small vessels sailed six months to cross Atlantic's brine.

Note here the vast extended wild that spread from shore to shore,
And savage tribes that roamed hereon for centuries before;
And view the gradual progress since that period up to date,
And now behold the cities vast, that dot this broad estate.

See railroads joining shore to shore, and many more mapped down,
With tracks that cross like spiderwebs, connecting town to town,
And whereupon the trains are hurled along at rapid rate,
And bring the news to every door, nor leaves us long to wait.

And see the cultivated fields displaying fertil soil,
Where man can feel a noble pride in agricultural toil,
And watch the giant stalks collide, and bow with loaded grain,
And wave before the gushing breeze, far o'er the rising plain.

And see the thronging populace with hurried steps go by,
And hear the steady roar of feet, upon the sidewalk ply;
And view the wealth of millionaires, in giant blocks sublime,
And built to stand a thousand years, the common wear of time

List to the puffing of the mills, the clicking of the wire,
The ponderous hammer beating bars, heat by the furnace fire;
The busy hum of factories, which scatter o'er the land,
And many more progressing arts around on every hand.

And these are new developments of scarce a century's time,
And still the future promises a record more sublime;
So as we shall not see it all, we need not scorn the earth,
But liv again and seek to know what future may bring forth.

You who reflect upon the past, repenting your sad course,
Seek from this day to mend your way, nor go from bad to worse;
Ascend the scale of moral worth, while here we may abide,
For where we end we shall begin anew the other side.

Select the best of moral seed, for 'tis not hard to know
The harvest shall be of the same, "We reap from what we sow."
The thistles, tares, and noxious weeds no culture need be shown;
They grow luxuriant and rank, while fought to be kept down.

All labor has its just reward, all virtue has its pay,
While vice and folly set us back upon our former way;
Thus all who would in glory rise to fill that grander sphere,
May well improve the present, for the future fast draws near.